

Calvert County, Maryland
Ten-Year Comprehensive Solid Waste Management Plan
2006-2018

Prepared By:
Gershman, Brickner & Bratton, Inc.
and the
Calvert County Department of Public Works
Division of Solid Waste



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INTRODUCTION

Calvert County is required to prepare and adopt a Solid Waste Management Plan (Plan) which covers a 10-year minimum planning period. Section 9-503 of the Environment Article, Annotated Code of Maryland, requires that the Plan be reviewed and updated, if necessary, by the County every three years. Upon adoption by the Board of Calvert County Commissioners, the Plan is then submitted to the Maryland Department of the Environment (MDE) for approval. The content of the Plan is defined in Title 9, Subtitle 5 of Environment Article, Annotated Code of Maryland and by Code of Maryland Regulations (COMAR) 26.03.03.

The Calvert County Board of County Commissioners last approved and adopted the Plan and subsequent amendment as stipulated in Resolutions on December 14, 2010. This Solid Waste Management Plan Update addresses the planning period from 2006-2018.

The governing authority in the County is the Calvert County Board of County Commissioners (Board). The Calvert County Comprehensive Solid Waste Management Plan 2006-2018 Update was approved and adopted by the Board following a formal public hearing in accordance with the resolution included at the end of this Introduction. The letter approving the Plan Update from the Maryland Department of the Environment is provided at the end of this section. In addition, COMAR 26.03.03.05 C requires a written discussion and summary of the substantive issues that were raised at the Public Hearing be submitted to the MDE along with the Plan.

Calvert County Solid Waste Management Plan 2006 Update – Material Tonnage Adjustments

As tonnage reports were compiled and researched for preparation of this Calvert County Solid Waste Management Plan 2006 Update, some anomalies came to light which affect the amounts of waste and recyclables actually generated in Calvert County for the year 2006 and the expectation that these quantities would continue. In order to provide a more realistic compilation of 2006 materials and to properly forecast future tonnages, quantities of materials from previously submitted reports were adjusted and placed in revised tables in this Plan Update. Given the time-frame since reports were generated and submitted, staff knowledge and recollection of quantities and events, and information available from facility operators on materials, quantities of 2006 tonnages were adjusted to the best of our abilities.

Some materials were determined to be from a one-time generation from a specific project, thus not likely to recur on an annual basis. This is the case with 16,101.26 tons of construction project soils and 274 tons of petroleum-contaminated soils, originally listed as a Commercial and Residential Non-MRA Recycling material respectively (See note 16 of Table III-3).

In addition, portions of other materials were identified as actually having been generated outside Calvert County and simply managed or processed at facilities located in Calvert County, whereas, submitted reports had originally listed all of the material as Calvert County-generated. Upon contacting facilities to clarify the amounts of land clearing debris processed from in-County versus out-of-County sources, some of the tonnages from multiple facilities were identified as actually having been generated outside of Calvert County and only processed at facilities in the County. An example of this occurs with 11,172 tons of material, originally reported to MDE as Commercial MRA Recycling under the MSW Compost category, but was actually "Bark Products", all generated outside of Calvert County and simply processed inside Calvert County, leading to a corresponding reduction of the Commercial MRA Recycling material quantities. These amounts are outlined in Table III-5, showing Calvert County Reported LCD Material. Vehicle Tire tonnages may also be affected, due to reporting procedures in place at the time. While these reporting practices have subsequently been examined for revision, it was not possible at this time to disaggregate potentially out-of-County tire quantities from those already reported.

Lastly, it appears that materials on identical reports received by MDE and Calvert County staff, from facilities processing material in Calvert County, were accounted into different categories. Most notably, County staff had attributed half of the woody waste materials reported from processing facilities to Commercial MRA Recycling quantities, in the amount of 35,494 tons recorded as Wood Materials, and the other half, another 35,494 tons, to Commercial Non-MRA Land Clearing Debris. It appears that the entire quantity of this material, 70,988 tons, has been recorded as Commercial Non-MRA Land Clearing Debris in the compiled annual records for Calvert County 2006 wastes. Thus, in adjusting 2006 generation quantities, these materials were all accounted in the Non-MRA category. As previously stated, some of the wood material tonnages reported by wood waste processing facilities in Calvert County were not generated inside the County; thus, adjustments to these quantities were made in addition to adjusting the category in which the quantity appeared. (See Table III-5, Calvert County Reported LCD Material.)

Upon discovery of these reporting inequities, County staff has implemented significant due diligence in developing procedures to alleviate these discrepancies in future Company Recycling Reports to the County, County annual reports, and Plan Updates.

Development of Residential Tonnage Values Used in Forecast

Due to various reporting conditions discovered during the development of this Plan Update, as noted, quantities of waste and recyclables generated by all residential sources in Calvert County were not immediately available. Thus, certain calculations and estimations were made in order to arrive at a reasonable value for use in future forecasting of waste and recycling quantities.

The Residential Waste Tonnage of 38,587, as shown in Table III-3, was derived as follows:

<u>Tonnage</u>	<u>Basis of Material</u>
25,917	County compactor sites (self-haul), as reported to MDE on Appeal Transfer Station Report
9,000	Subscription collections, estimated by GBB from remaining number of single-family and duplex households in County
2,696	Towns of North/Chesapeake Beach, as reported by haulers to Towns/County
912	Multi-family household generation, estimated by GBB from number of MFHH in County
62	Landfill disposal, adjusted for household hazardous waste, and bulky wastes
38,587	TOTAL Tons (as shown in Table III-3, Residential Waste)

The Residential Recycling Tonnage of 10,255, as shown in Table III-3, was derived as follows:

<u>Tonnage</u>	<u>Basis of Material</u>
9,882	MRA Recycling, adjusted for brush/branches, tires, and appliances
352	Towns of Chesapeake/North Beach, as reported by haulers to Towns/County
21	Non-MRA Recycling, adjusted for waste oil, C&D, and Soil
10,255	TOTAL Tons (as shown in Table III-3, Residential Recyclables)

These quantities result in a total Residential Generation Tonnage of 48,842 of combined waste and recyclable materials for the year 2006. In accounting these values to residential generation, certain of the tonnages were removed from quantities originally reported as commercial generation, as it was anticipated that they had mistakenly been recorded there, due to disposal site scale house registrations in place at the time of reporting. These practices have since been noted by County personnel and will be kept in consideration for future tonnage reports. With these category and quantity adjustments, the values represented in this Plan Update will not specifically match the values originally shown on County or facility annual reports and recorded by MDE. However, in presenting a tonnage quantity to be used for waste and recyclable material generation forecast, we believe this methodology provides a complete picture of all types of residential wastes which ultimately must be managed.

**RESOLUTION OF ADOPTION
BY
CALVERT COUNTY BOARD OF COMMISSIONERS**

BK00035FG055

RESOLUTION NO. 49-10

**PERTAINING TO THE ADOPTION OF THE 2006-2018 CALVERT COUNTY
COMPREHENSIVE SOLID WASTE MANAGEMENT PLAN**

WHEREAS, pursuant to the authority contained in Title 9, Subtitle 5 of the Environment Article of the Annotated Code of Maryland, the Board of County Commissioners of Calvert County, Maryland has general powers to adopt and amend a County plan dealing with water supply systems, sewerage systems, solid waste disposal systems, solid waste acceptance facilities and the systematic collection and disposal of solid waste, including litter; and,

WHEREAS, the Board of County Commissioners of Calvert County, Maryland adopted a Comprehensive Solid Waste Management Plan in 1993; and,

WHEREAS, Title 9, Subtitle 5 of the Environment Article of the Annotated Code of Maryland requires that the Board of County Commissioners of Calvert County, Maryland adopt a Comprehensive Solid Waste Management Plan every ten years; and,

WHEREAS, after due notice was published, the Board of County Commissioners of Calvert County, Maryland conducted a joint public hearing with the Calvert County Planning Commission on November 23, 2010, at which time the proposed 2006-2018 Comprehensive Solid Waste Management Plan was discussed and public comment was heard; and,

WHEREAS, the Calvert County Planning Commission has determined the proposed 2006-2018 Comprehensive Solid Waste Management Plan is consistent with the Calvert County Comprehensive Plan; and,

BK000635PG056

WHEREAS, in public session on December 14, 2010, the Board of County Commissioners of Calvert County, Maryland, approved the proposed 2006-2018 Comprehensive Solid Waste Management Plan.

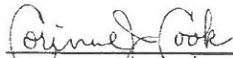
NOW, THEREFORE, BE IT FURTHER RESOLVED AND ORDAINED, by the Board of County Commissioners of Calvert County, Maryland, that the Calvert County Comprehensive Solid Waste Management Plan for the planning period from 2006 to 2018, included in Exhibit A attached hereto and made a part hereof, BE, and hereby IS, approved and adopted.


AND BE IT FURTHER RESOLVED, that this Resolution and Comprehensive Solid Waste Management Plan shall be in force and effect from and after its adoption on the date set forth below.

DONE, this 14 day of December, 2010, by the Board of County Commissioners of Calvert County, Maryland, sitting in regular session.

ATTEST:

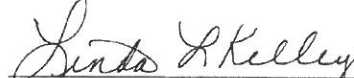
BOARD OF COUNTY COMMISSIONERS
OF CALVERT COUNTY, MARYLAND

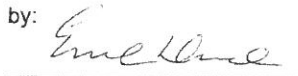

Corinne J. Cook, Clerk

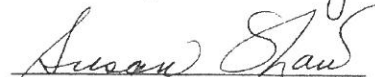

Wilson H. Parran, President


Gerald W. Clark, Vice President


Approved for legal
sufficiency on 12/2/10


Linda L. Kelley

by: 


Susan Shaw

Emanuel Demedis,
County Attorney


Barbara A. Stinnett

Received by County Clerk
of 11:27 on 12/2/10
for the Board of County Commissioners
of Calvert County, Maryland
35
55
COUNTY COMMISSIONERS
OF CALVERT COUNTY, MARYLAND
AND RESOLUTION.



STATE REGULATORY REQUIREMENTS

Solid waste management regulations and policies exist at the federal, state and local government levels. A summary of pertinent legislation and recent changes relating to solid waste management has been included as a part of the Plan. Traditionally, the federal government has provided the overall regulatory direction and set the minimum standards for protecting human health and environment. The implementation of these regulations is the responsibility of State and local governments. The State of Maryland established the MDE to enforce and implement federal and State solid waste management regulations.

ACKNOWLEDGEMENT OF CITIZEN INPUT

A written discussion and summary of the substantive issues that were raised at the Public Hearing were forwarded to the Maryland Department of the Environment for their use and permanent record.



MARYLAND DEPARTMENT OF THE ENVIRONMENT

1800 Washington Boulevard • Baltimore, MD 21230

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Martin O'Malley
Governor

Anthony G. Brown
Lieutenant Governor

Robert M. Summers, Ph.D.
Acting Secretary

March 13, 2011

The Honorable Susan Shaw
President, Board of Commissioners of Calvert County
Board of County Commissioners
175 Main Street
Prince Frederick, MD 20650

Dear County Commissioner Shaw:

The Maryland Department of the Environment (the "Department") has completed review of the Calvert County Solid Waste Management Plan (2006-2018), (the "Plan"), which was adopted by the Calvert County Commissioners on December 14, 2010.

Based on this review, the Department has determined that the Plan satisfies the Department's guidelines and complies with the defined requirements of the Code of Maryland Regulations (COMAR) 26.03.03. In accordance with §9-507(a) of the Environment Article, Annotated Code of Maryland, the Plan is approved.

Per § 9-506(b)(2) of the Environment Article, Annotated Code of Maryland, Calvert County is required to submit a progress report at least every two years including any revisions or amendments of the County plan that have been adopted. Since the Plan was adopted on December 14, 2010, Calvert County must submit to the Department its first progress report required by § 9-506(b)(2) on or before December 14, 2012.

Thank you for your continuing interest and cooperation in providing sound and long-term solid waste management planning for the County. If you have questions or need additional clarification on these matters, please contact Ms. Hilary Miller, Program Manager, Technical Services and Operations Program at 410-537-3431 or you may contact me at 410-537-3304.

Sincerely,

Horacio Tablada, Director
Land Management Administration

cc: William Teter, Calvert County Recycling Coordinator
Hilary Miller, Program Manager, Technical Services and Operations Program

CHAPTER ONE

COUNTY GOALS AND OBJECTIVES

The Comprehensive Solid Waste Management Plan for Calvert County is intended to provide goals and recommendations that form a consistent framework for solid waste planning during a 10-year period. The goals and objectives are intended to be revised and/or supplemented during each triennial plan review to reflect the dynamics of the solid waste management within the County. The essence of the planning process centers on developing practical goals and objectives that will help with solid waste decision-making now and in the future. The planning process shall also accurately identify the current regulatory requirements and set forth recommendations for the Plan's implementation. The goals represent the fundamental desires and visions for the management of solid waste within Calvert County. The goals established are attainable by accomplishing specific objectives.

A. SOLID WASTE MANAGEMENT GOALS/OBJECTIVES

1. Goal: Protect public health and safety and preserve the natural environment.

Objectives:

- 1) Maintain compliance with all applicable County, State (MDE) and federal regulations.
- 2) Ensure conformity with the MDE permit conditions for State-permitted solid waste facilities.
- 3) Follow the current Comprehensive Solid Waste Management Plan, reviewing this plan every three years and update if necessary.
- 4) Research new household hazardous waste programs that ensure environmentally safe collection, handling and disposal.
- 5) Conserve land by minimizing land use for waste disposal through the promotion of solid waste diversion efforts including recycling, waste reduction and reuse of materials as well as through continuing the transfer of solid waste out of County.

2. Goal: Increase recycling, solid waste source reduction and reuse of materials.

Objectives:

- 1) Increase promotion and education of recycling, solid waste source reduction and reuse of materials.
- 2) Research and implement new ideas for encouraging citizens and businesses to recycle, reduce and reuse materials.

- 3) Continue to exceed the Maryland Recycling Act (MRA) required recycling rates.
 - 4) Continue review of existing recycling programs and explore new recycling markets and opportunities, adjusting existing recycling contracts to correct for changes in market conditions.
- 3. Goal: Ensure safe, efficient, cost effective and adequate solid waste services and infrastructure to accommodate the current and future residential and commercial municipal solid waste and recyclables generated throughout the County.**

Objectives:

- 1) Design, build and maintain safe and efficient solid waste acceptance and disposal facilities to adequately accommodate the solid waste and recyclables generated throughout the County.
 - 2) Conduct regular reviews of existing facility capacities to ensure continual collection and transfer capability as the population continues to increase.
 - 3) Plan and schedule the construction of new public solid waste facilities to accommodate approved solid waste programs and services according to a five-year capital improvements program.
 - 4) Improve on the present customer Convenience Center collection system for household wastes, including the feasibility of curbside waste/recycling collection.
- 4. Goal: Continue proper management of existing landfill infrastructure and capacity.**

Objectives:

- 1) Provide continual disposal capacity for municipal solid waste by continuing the transfer of solid waste generated by citizens, commerce and industry out of Calvert County to ensure future landfill capacity to accommodate solid waste collection and disposal needs through at least the year 2018.
 - 2) Explore alternatives for recovering existing landfill cell capacity.
 - 3) Explore alternatives for effective methane gas collection and management.
- 5. Goal: Provide cost-effective and self-sufficient solid waste management.**

Objectives:

- 1) Maintain a revenue structure that provides funding to support the solid waste program as a self-supporting enterprise.
- 2) Maintain an up-to-date tipping fee and solid waste fee structure that will ensure adequate funding for the solid waste management program and encourage recycling, solid waste source reduction and reuse of materials.

- 3) Review and revise County Codes for proper fee application for chargeable wastes that are collected at the facilities.
- 4) Continue pursuit and re-evaluation of available recycling markets to take best advantage of technological advancements in recycling alternatives.

The Board of County Commissioners adopted the goals/objectives reflected in Chapter 2 of this Plan as a part of the total Comprehensive Plan Revision of Calvert County in 2004.

The 2004 Comprehensive Land Use Plan was the culmination of a four-year effort which involved an “extensive” citizen participation effort, wide review by local agencies and citizen groups, and local, State and federal agencies.

Implementation of the adopted goals/objectives for solid waste management is provided through specific programs, policies, and recommendations in this Plan, as identified in later chapters.

All applicable State, federal and local plans, programs and regulations, which may impact or be impacted by the goals, objectives and philosophies of the Comprehensive Solid Waste Management Plan, have been considered, to the best of our knowledge, in formulation of this document. Section D provides a discussion of applicable federal, State, and local legislation considered during the development of this Plan Update.

B. ORGANIZATION OF CALVERT COUNTY GOVERNMENT

The Board of County Commissioners is responsible for the operation of governmental activities in Calvert County, other than those controlled by the federal government, State of Maryland, municipalities, the judicial system, and quasi-state agencies, such as the public schools. The structure of the County Government is given in Figure I-1. The structure of the Solid Waste Division within the Department of Public Works, Division of Solid Waste, is given in Figure I-2.

The Commissioners’ staff support consists of a County Administrator who supervises the daily business of the County and oversees the operation of the five departments into which the government is divided. Three of the five departments, Planning and Zoning, Finance and Budget, and Public Works, play a role in developing and implementing the Solid Waste Management Plan in Calvert County. A detailed breakdown of the structure of the County government as it relates to solid waste management follows:

1. County Administrator: Supervises daily business in the Commissioners’ office and oversees the operation of the departments of the County Government.
2. The Department of Public Works: Responsible to the County Commissioners for the development, direction and administration of services and projects related to County-owned facilities. Programs supervised by the Department include:

- a. Construction and improvement of County roads, storm drainage, and County parks and buildings;
- b. Collection and disposal of solid waste, including: (1) developing and administering the County's Comprehensive Solid Waste Management Plan, (2) operating and maintaining the County's Sanitary Landfill, (3) operating and maintaining the County's system of staffed solid waste compactor sites (Convenience Centers), (4) Overseeing transfer of solid waste to out-of-state landfills, and (5) administration of transfer and disposal contract between the County and Waste Management, Inc. (WMI);
- c. Management of the County's recycling program, including implementation of the County's Recycling Plan;
- d. Public Works review of public facilities;
- e. Inspections related to County contracts and permits;
- f. Preparation of budget requirements for Department operations and capital improvements; and
- h. Operation of municipal water/waste water facilities.

Public Works oversees the development and operation of solid waste collection and disposal. The Office of the Director is responsible to the County Commissioners for supervision and administration of the Department Divisions and for the projects assigned directly to it by the County Commissioners. The Division of Solid Waste is responsible for the design, technical review, and the operation of the Landfill and solid waste Convenience Center collection system (except for private collection by commercial haulers in the open market for residential and commercial waste collection), development and administration of the County Solid Waste Management Plan, and administration of the County's recycling program (including, developing and updating the County Recycling Plan).

- 3. The Department of Planning and Zoning: The Department is responsible for all planning and zoning activities in the County, including subdivision review, site plan review, rezoning cases and special planning projects including the County Comprehensive Plan.
 - a. Project Planning. Review and Update of the Comprehensive Plan. The Calvert County Comprehensive Plan involves all aspects of living influenced by the County government, and includes Health, Land Use, Public Safety, etc. It is a policy statement, describing the objectives for the future, recommendations for attaining these objectives, and procedures for review and adoption by the County Commissioners. The approved Comprehensive Plan then becomes the County's guiding plan for future actions.

- b. Participation in the review and update of the Comprehensive Solid Waste Management Plan and Recycling Plan. These Plans further outline methods to implement the overall goals and objectives in the County Comprehensive Plan relating to solid waste and recycling. The objective of the Solid Waste Management Plan is to guide the development of the solid waste collection and disposal systems in a manner consistent with County, State and federal laws relating to air and water pollution and land use. The objective of the Recycling Plan is to guide the implementation of a recycling system that will reduce the amount of waste requiring disposal in the County and meet the recycling goals established by the Maryland Recycling Act.
4. The Department of Finance and Budget: The Department is responsible for recommending an annual County operating budget and the County capital improvements program for the Board of County Commissioners' review. All funding for solid waste operations and long-term improvements is approved through this process.

C. COUNTY ADMINISTRATION OF PLAN

Figure I-3 depicts the organization of Calvert County government relative to administration of the adopted Comprehensive Solid Waste Management Plan.

D. LEGISLATION AND REGULATIONS AFFECTING SOLID WASTE MANAGEMENT PLANNING IN THE COUNTY

Solid waste management laws and regulations exist at the federal, state, and county levels. Overall, regulatory direction and minimum nationwide standards for protecting human health and the environment are established at the federal level. State regulations meet or exceed those mandated by federal regulations. State regulations specify minimum design criteria and the permitting, construction, operation, maintenance, and monitoring requirements for many solid waste management facilities. County regulations must be compatible with federal and state laws and regulations, but may augment federal and state laws and regulations. The more specific issues of land use, zoning, procurement, financing, and operation related to solid waste management facilities are left entirely to the County to regulate.

Descriptions of responsible agencies, responsibilities, and the applicable federal, state, and county laws and regulations are discussed in the following paragraphs.

1. Federal Legislation

The following summary identifies the applicable federal laws, judged to be most significant, regulating solid waste. Foremost among those laws is the Resource Conservation and Recovery Act (RCRA) of 1976, amended in 1980 and 1984, that

provides federal guidelines and standards for the environmentally sound reuse, handling, and disposal of solid waste. The act requires that states incorporate these guidelines into their solid waste management programs. Under RCRA provisions, Subtitle D provides federal standards for municipal sanitary landfills. These standards include the location, design, operation, groundwater monitoring, corrective action, closure, post-closure, and financial assurance criteria for all municipal sanitary landfills.

a. Summary of Federal Laws Affecting Solid Waste Management:

- 1) *Resource Conservation and Recovery Act*: A primary objective of this act is to promote recycling and reuse of recoverable materials. The act also provides guidelines for environmentally-sound handling and disposal of both hazardous and non-hazardous solid waste. Subtitle D of the act specifies criteria for municipal solid waste landfills.
- 2) *Comprehensive Environmental Response, Compensation and Liability Act (Superfund)*: Establishes programs for the identification and remediation of waste disposal sites containing hazardous substances; establishes standards for clean-up efforts and disposal of wastes; and provides a mechanism for assigning liability for contaminated sites.
- 3) *Clean Water Act*: Section 402 of this act establishes the National Pollutant Discharge Elimination System (NPDES) program which regulates effluent limitations for the discharge of wastewater and runoff from solid waste management facilities into bodies of water. The construction of facilities which may impact rivers, lakes, marshes, swamps, or wetlands is regulated by Section 404 which is administered by the Army Corps of Engineers. Section 405 addresses the disposal of wastewater treatment sludge.
- 4) *Clean Air Act*: Regulates emissions from landfill gas management systems and resource recovery facilities. Landfill operators must comply with requirements of the State implementation plan established under Section 110.
- 5) *Safe Drinking Water Act*: Establishes maximum contaminant levels for parameters included in groundwater monitoring programs.
- 6) *Federal Emergency Management Act*: Prohibits siting of facilities within the 100-year floodplain.
- 7) *Endangered Species Act*: Prohibits construction or operation of facilities that would result in the "taking" of an endangered or threatened wildlife species, or in the destruction of their critical habitat.

The Code of Federal Regulations (CFR) provides documentation of the rules established in the Federal Register by the executive departments of the federal government. The Code is divided into 50 titles which are further divided into chapters and subparts thereof. CFR Title 40 is titled Protection of the Environment, which includes Subchapter I-Solid Wastes (Parts 240 through 272).

Solid waste management, on the federal level, is the responsibility of the United States Environmental Protection Agency (EPA). Federal regulations establish overall

regulatory direction and minimum nationwide standards for protecting human health and the environment. Direct implementation of solid waste programs is delegated to state and local governments. Following is a summary of federal regulations important to solid waste management contained in CFR, Title 40, Subchapter I - Solid Wastes:

b. Summary of Federal Regulations Affecting Solid Waste Management (CFR, Title 40, Subchapter I)

- 1) *Part 240: Guidelines for the Thermal Processing of Solid Wastes: Minimum performance level for municipal solid waste incinerators with a capacity of 50 tons per day, or greater.*
- 2) *Part 241: Guidelines for the Land Disposal of Solid Wastes: Minimum performance levels for any municipal solid waste disposal site operation.*
- 3) Regulations mandatory for federal agencies and recommended for state and local governments:
 - i. *Part 243: Guidelines for the Storage and Collection of Residential, Commercial and Institutional Solid Waste: Minimum performance levels for solid waste collection operations. Issues addressed include storage, safety, equipment, frequency, and management.*
 - ii. *Part 244: Management Guidelines for Beverage Containers: Minimum actions for reducing beverage container waste; covers use of returnables, information requirements, and implementation.*
 - iii. *Part 245: Promulgation of Resource Recovery Facilities Guidelines: Guidelines for the recovery of resources from residential, commercial, and institutional solid wastes, including regionalization and planning techniques.*
 - iv. *Part 246: Source Separation for Materials Recovery Guidelines: Minimum actions for the recovery of resources from solid wastes, including high-grade paper, residential materials, and corrugated containers.*
- 4) *Part 247: Guidelines for the Procurement of Products That Contain Recycled Materials: Recommended guidelines for procedures that can be used in the specifications for procurement of products to increase the use of recycled materials.*
- 5) *Part 255: Identification of Regions and Agencies for Management: Procedures for the identification of regional solid waste management planning districts pursuant to Section 4002(a) of the Solid Waste Disposal Act.*
- 6) *Part 256: Guidelines for Development and Implementation of State Management Plans: Guidelines for development and implementation of State solid waste management plans.*
- 7) *Part 257: Criteria for the Classification of Disposal Facilities and Practices: Criteria to determine which solid waste facilities pose a reasonable probability of adverse effects on health or the environment. Facilities in violation will be considered open dumps. Does not apply to municipal landfills (covered under Section 258).*

- 8) *Part 258: Criteria for Municipal Landfills (Subtitle D Regulations): Establishes minimum national criteria for the design and operation of municipal solid waste landfills. Includes location restrictions, operating criteria, design criteria, groundwater monitoring and corrective action, closure and post-closure care, and financial assurance criteria. Design standards apply only to new landfills and lateral expansions of existing facilities.*
- 9) *Part 260: Hazardous Waste Management System – General: Provides definitions of terms and a general overview of Parts 260 through 265.*
- 10) *Part 261: Identification and Listing of Hazardous Waste: Provides identification of those materials which are subject to regulation as hazardous wastes under Parts 270, 271, and 124.*
- 11) *Part 262: Standards Applicable to Generators of Hazardous Waste: Establishes standards for generators of hazardous wastes including EPA identification numbers, manifest, pre-transportation requirements, record keeping, and reporting.*
- 12) *Part 263: Standards Applicable to Transporters of Hazardous Waste: Establishes regulations for transporters of materials requiring a manifest as defined in Part 262.*
- 13) *Part 264: Standards for owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities: Establishes minimum national standards for the management of hazardous waste.*
- 14) *Part 265: Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities: Establishes minimum national standards that define the management of hazardous wastes during the period of interim status and until the certification of post-closure or closure of the facility.*
- 15) *Part 266: Standards for the Management of Specific Hazardous Wastes and Specific Types of Hazardous Waste Disposal Sites: Establishes minimum national standards for the recyclable materials used in a manner to constitute disposal, hazardous waste burned for energy recovery, used oil burned for energy recovery, recyclable material used for precious metal recovery, and spent lead-acid batteries being reclaimed.*
- 16) *Part 267: Interim Standards for Owners and Operators of New Hazardous Waste Land Disposal Facilities: Establishes minimum national standards which define the management of hazardous waste for new land disposal facilities.*
- 17) *Part 268: Land Disposal Restrictions: Identifies a schedule to evaluate listed wastes for prohibition of land disposal and establishment of treatment standards for these wastes.*
- 18) *Part 270: EPA Administered Permit Programs: The Hazardous Waste Permit Program: Application requirements, standard permit conditions, monitoring, and reporting requirements for EPA permitting for the treatment, storage, and disposal of hazardous waste.*
- 19) *Part 271: Requirements for Authorization of State Hazardous Waste Programs: Identifies the requirements that state programs must meet*

to fulfill interim and final authorization as well as the procedures EPA uses to approve, revise, and withdraw approval of State programs.

- 20) *Part 272: Approved State Hazardous Waste Programs: Establishes the applicable State hazardous waste management programs.*
- 21) *Part 503: Sewage Sludge Regulations: Requirements and standards for the treatment, land application, surface disposal, and incineration of sewage sludge.*

2. State

The State of Maryland has adopted a number of laws that address solid waste management issues. The Maryland Department of the Environment (MDE) is the primary State agency having responsibility for regulating solid waste management within the State of Maryland.

a. Maryland Department of the Environment:

MDE implements federal and state solid waste regulations, and enforces Maryland environmental regulations addressing surface water and groundwater protection, erosion and sediment control, preservation of wetlands, and recycling. MDE reviews solid waste facility plans and management plans, issues permits, and inspects facilities.

MDE issues permits for the various types of waste facilities that could be sited in Calvert County including municipal landfills, land-clearing debris landfills, rubble landfills, processing facilities (e.g., rubble processing facilities), as land clearing debris and rubble landfills are a subcategory of sanitary landfills and MDE does not regulate MRF or recycling facilities. Industry and the private sector are responsible for permitting and providing industrial and/or hazardous waste facilities for disposal of their wastes, as required. One way that Calvert County is able to regulate industrial and hazardous waste facilities is through public review of permit applications for waste management facilities.

A summary of the State laws affecting solid waste management is provided below. The development of recycling programs in Calvert County is governed by a number of these state laws.

- 1) Summary of Maryland Laws Affecting Solid Waste Management (Title 9 Environment Article, Annotated Code of Maryland):
 - i. *Maryland State Implementation Plan (SIP)*: Limits emissions from specific pollutant sources to prevent air quality from falling below National Ambient Air Quality Standards (NAAQS).
 - ii. *Nontidal Wetland Regulations*: Prevents net loss of nontidal wetlands by establishing a stringent permitting process.
 - iii. *Chesapeake Bay Critical Area Protection Program (1984)*: Controls human intervention in the Chesapeake Bay drainage area.
 - iv. *Maryland Recycling Act (1988)*: Establishes a requirement for

- Maryland counties to plan and implement a recycling system by 1994. Calvert County was mandated to reduce the County's waste stream by 15 percent.
- v. *Maryland State Senate Joint Resolution 6 (2000)*: Established a voluntary statewide diversion of goal of 40% by the year 2005 in order to reduce the amount of waste going to solid waste disposal facilities.
 - vi. *Asbestos Control - Asbestos Hazard Emergency Response Act (1990)*: Requires completion of a teaming program by those who do asbestos-related work within schools; deals with asbestos controls.
 - vii. *Land-clearing Debris Landfills - Amount of Surety (1990)*: Addresses the amount of surety required for each acre of land-clearing debris landfills.
 - viii. *Newsprint Recycled Content Act (1991)*: Regulates newsprint recycling by imposing specified recycling content percentage requirements on the Maryland newspaper industry.
 - ix. *Telephone Directory Recycling Act (1991)*: Regulates telephone directory publishers to meet specified recycling content percentage requirements for telephone directories.
 - x. *Plastic Material Code (1991)*: Bans rigid plastic containers or bottles from distribution or sale in the State unless appropriately labeled indicating the plastic resin used to produce them.
 - xi. *Composting Act (1992)*: Includes composting in the definition of recycling. Requires that County recycling plans address composting issues, and bans yard waste from landfills effective in 1994.
 - xii. *Mercury Oxide Battery Act (1992)*: Makes battery manufacturers responsible for collection, transportation, and recycling or disposal of batteries sold or offered for promotional purposes in the State.
 - xiii. *Sludge Application*: Regulates land application procedures to maintain the public health.
 - xiv. *Medical Waste Legislation*: Regulates identification, record keeping, treatment, transport, and disposal of special medical wastes; infectious wastes are prohibited in solid waste landfills in the State.
 - xv. *Natural Wood Waste Recycling Facilities (1991)*: Wood waste recycling facilities must be appropriately permitted and operated, and may accept only natural wood waste.
 - xvi. *Scrap Tire Recycling Fees*: Regulates the storage of scrap tires, including prohibition against landfill disposal or scrap tires after January 1, 1994; establishes tire recycling fee on new tires sold in Maryland.
 - xvii. *Statewide Computer Recycling Pilot Program (2005)*: Act establishing statewide Computer Recycling Pilot Program and computer manufacturer registration fee.

- xviii. *Sale of Mercury Containing Thermostats (2008)*: Prohibits sale of mercury containing thermostats by October 2007.

State laws are codified under the articles of the Annotated Code of Maryland. Laws addressing solid waste management are included throughout the Code; the Title 9 Environment Article contains many of the laws affecting the location, design, and operation of solid waste disposal facilities. These laws are developed into regulation by the agency to which the responsibility is delegated by the State Legislature. An abbreviated summary of the Annotated Code of Maryland titles affecting solid waste management is provided below.

- 2) Summary of Sections of the Environment Article, Annotated Code of Maryland Affecting Solid Waste Management (Annotated Code of Maryland):
- i. Title 4 - Water Management
 - ii. Title 6 - Toxic, Carcinogenic, and Flammable Substances
 - iii. Title 7 - Hazardous Materials and Substances
 - iv. Under Title 9 - Water, Ice and Sanitary Facilities; MDE regulates the location, design, and operation of sanitary landfills through refuse disposal permits issued and enforced under authority of the following sections:
 - a) Section 204 Installing, Altering, or Extending Water Supply Systems, Sewerage Systems, or Refuse Disposal Systems
 - b) Section 204.1 Installing, Altering, or Extending Incinerators
 - c) Section 204.2 Installing, Altering, or Extending Landfill Systems
 - d) Section 209 Landfill System Hearings
 - e) Section 210 Prerequisites for Issuance of Permit
 - f) Section 211 Landfills, Incinerators, and Transfer Stations; Requirements for Security
 - g) Section 212 Landfill Systems - Options to Purchase
 - h) Section 212.1 Denial of Permit to Non-government Person(s)
 - i) Section 213 Term of Permit (five years)
 - j) Section 214 Revoking or Refusal to Renew a Permit
 - k) Section 215 Closure and Cover when Operation Ends
 - l) Section 225 Landfills near Hospitals Prohibited (½-mile radius)
 - m) Section 226 Certification of Public Necessity Required for Hazardous Waste Landfill System
 - n) Section 227 Infectious Waste in Landfill System Prohibited
 - o) Title 9, Subtitle 5, County Water and Sewerage Plans
 - p) Title 9, Subtitle 17, Office of Recycling

Administrative rules and regulations adopted by State agencies pursuant to State laws are compiled into a document entitled Code of Maryland Regulations (COMAR). Title 8 contains the regulations of the

Maryland Department of Natural Resources (DNR) which must be considered when siting solid waste facilities. COMAR Title 26 contains the administrative rules and regulations for MDE including solid waste management regulations. A summary of the regulations which affect solid waste management is provided below.

- 3) Summary of Maryland Regulations Affecting Solid Waste Management (COMAR Regulations):
 - i. Under Title 8 (Department of Natural Resources), the following sections must be considered in the siting of solid waste management facilities:
 - a) Subtitle 3, Chapter 8, Threatened and Endangered Species
 - b) Subtitle 9, Chapters 1-6, Forest Conservation
 - ii. Title 26, Subtitle 3, Water Supply, Sewerage, Solid Waste, and Pollution Control Planning and Funding, Chapter 3, Development of County Comprehensive Solid Waste Management Plans: Requires that each county maintain a current solid waste management plan and establishes the format for these plans.
 - iii. Title 26, Subtitle 3, Chapter 10, Financial Assistance for the Construction of Processing and Disposal Facilities: Stipulates the requirements, priority listing criteria, and ranking system for counties to receive financial assistance from the State of Maryland.
 - iv. Title 26, Subtitle 4, Regulation of Water Supply, Sewerage Disposal and Solid Waste, Chapter 7 Solid Waste, Solid Waste Management: Regulates permitting, designing, constructing, operating, and closing municipal, land-clearing debris, rubble, and industrial waste landfills, processing facilities, transfer stations, and incinerators.
 - v. Other regulations under Title 26 that are important to solid waste management include:
 - a) Subtitle 4, Chapter 6, Sewage Sludge Management
 - b) Subtitle 4, Chapter 8, Scrap Tire Regulations
 - c) Subtitle 4, Chapter 9, Natural Wood Waste Recycling Facilities
 - d) Subtitle 5, Chapter 3, Construction on Nontidal Waters and Flood Plains
 - e) Subtitle 5, Chapter 4, Nontidal Wetlands
 - f) Subtitle 5, Chapter 7, Wetlands Regulations
 - g) Subtitle 8, Water Pollution
 - h) Subtitle 9, Chapter 1, Erosion and Sediment Control
 - i) Subtitle 9, Chapter 2, Stormwater Management
 - j) Subtitle 11, Air Quality
 - k) Subtitle 13, Disposal of Controlled Hazardous Substances

4) Summary of COMAR Regulations Affecting Solid Waste Management Facilities Permitting Requirements:

All solid waste acceptance facilities are required to operate in a manner that reduces health hazards and minimizes environmental impacts. Discharges to water or air are limited to those permitted by solid waste management, water pollution control, or air pollution control regulations. The permitting process described in the following paragraphs is for a refuse disposal permit, which is a requirement for all solid waste management facilities. Additional permits are required for constructing and operating these facilities. These permitting requirements are included for use in planning and are not intended to provide a complete description of COMAR permitting requirements. An applicant for a permit must obtain a copy and strictly follow all requirements of the applicable COMAR regulations.

i. Municipal Landfills (COMAR 26.04.07.06-.08):

The permitting process for municipal landfills proceeds in three phases and requires that the public be notified of a proposed sanitary landfill. The siting of proposed solid waste acceptance facilities is accomplished and approved at the local or county level. Public notice is required for permit application to install, materially alter, or materially extend a landfill. The first phase of the permit application is a detailed site selection study and a site recommendation; once the landfill site is selected, a site specific hydrogeologic study for the recommended landfill site is presented in the second phase and a conceptual design of the proposed sanitary landfill is presented in the third phase.

Section 9-210, Environment Article, Annotated Code of Maryland clarifies the local approvals required in the permitting process. The MDE may not issue a permit until the following steps are taken.

- a) MDE completes the preliminary review and sends its preliminary written findings to the County Commissioners and the Planning Commission.
- b) Calvert County completes its review and provides MDE with a written statement that the proposed refuse disposal system: (a) meets all applicable County zoning and land use requirements; and (b) is in conformity with the Calvert County Comprehensive Solid Waste Management Plan.

Public notification of applications for the installation, material alteration or extension of landfills is required by Title 1 - Subtitle 6 - Environment Article, Annotated Code of Maryland. The regulation

requires that the MDE publish notice of the application once a week for two weeks in a newspaper of general circulation within the county. In addition, the applicant must give notice by certified mail to land owners adjacent to the site, the chairman of the legislative body, and any elected executive of the county, the elected executive of any municipal corporation within the county, and any other county within one mile of the site. Should MDE receive a request to conduct a public information meeting, a meeting will be conducted prior to the approval of the first phase of the permit application. The applicant and interested parties will be invited to this meeting.

ii. Land-clearing Debris Landfills (COMAR 26.04.07.11):

Land-clearing debris landfills are restricted by COMAR regulation to accepting only those naturally occurring wastes that have been generated from land clearing operations. Construction and demolition waste is prohibited from this specific class of landfill. Information required for a permit is included in a single-phase permit application report. Prior to issuance of the refuse disposal permit, MDE will hold a public hearing for the debris landfill.

iii. Rubble Landfills (COMAR 26.04.07.13-18):

The refuse disposal permitting process for a rubble landfill follows the three-phase procedure used for municipal landfills. The MDE review procedure and public participation requirements are also similar.

iv. Nonhazardous Industrial Waste Landfills (COMAR 26.04.07.03, .19 and .20):

The permit application requirements for an industrial waste landfill are similar to those for a municipal landfill. A detailed waste characterization is required for industrial landfills. The information required for an industrial waste landfill is included in a single-phase permit application report.

v. Processing Facilities (COMAR 26.04.07.23):

The refuse disposal permit application for a solid waste processing facility consists of a permit application letter briefly describing the project followed by detailed engineering drawings and specifications.

Processes requiring unloading, separation, reduction, or alteration of solid waste must be performed within an enclosed building.

Composting, white goods storage, and tire storage may be conducted outdoors. Composted materials for distribution must be non-pathogenic, biologically and chemically stable, and free of injurious components. A public hearing or notification is not required for processing facilities. These facilities may also require permits issued by the Air and Radiation Management Administration of the MDE.

vi. Transfer Stations (COMAR 26.04.07.24):

Procedures and requirements for obtaining a transfer station refuse disposal permit are similar to those for processing facilities. Additionally, transfer station permitting requirements include information on procedures and methods for identifying and segregating unacceptable wastes. These facilities may also require permits issued by the Air and Radiation Management Administration of the MDE.

vii. Incinerators (COMAR 26.04.07.25):

Procedures and requirements for obtaining an incinerator refuse disposal permit are similar to those for transfer stations. Additional requirements include location of storage areas for incinerator ash and other non-combustible products generated by the process, identification of a disposal site for the non-combustible materials, and a written operational plan for disposal of the waste in the event that the facility is non-operational. A public hearing will be held prior to the issuance of the permit.

These facilities also require permits issued by the Air and Radiation Management Administration of the MDE.

b. Maryland Environmental Service

The Maryland Environmental Service (MES) is an agency within the Maryland Department of Natural Resources. MES has the authority to plan, acquire, construct, and operate water, wastewater, and solid waste facilities; institute and charge user fees; and create and administer funding authorities for issuing revenue bonds to provide project financing. MES is available to provide support to any locality which requests assistance. Additionally, MES will provide remedial services requested by MDE for a locality which has not complied with regulations. MES has been delegated the responsibility for overseeing Maryland's used oil program. Under MDE authorization, MES may use portions of the State Used Tire Cleanup and Recycling Fund to implement and oversee programs established as part of a Scrap Tire Recycling System and other projects that reduce, recover and/or recycle scrap tires.

3. Calvert County

Calvert County regulates solid waste management activities through the Code of Public Laws, the administrative regulations adopted pursuant to the code, the Calvert County Zoning Ordinance, and the resolutions adopted by the Board of County Commissioners. Additional resolutions will be adopted as required to ensure that the County's solid waste management system is adequate to meet the needs of County residents, businesses, and institutions, including to ensure an adequate funding mechanism for the County's solid waste management system. The specific pertinent County regulations addressing solid waste management are described in the paragraphs below:

a. Code of Public Laws of Calvert County

Chapter 119, Solid Waste, Articles I through VI of the Code of Calvert County (Calvert County Code of Public Laws) provides the adopted, promulgated and amended solid waste ordinance requiring, regulating or providing for the storage, collection, removal, transporting and disposal of solid waste (trash, refuse, garbage, rubbish or any other matter or thing that is or may become injurious to the health or comfort of the inhabitants of the County) throughout Calvert County including but not limited to all cities, towns, hamlets and villages, whether incorporated or unincorporated.

Chapter 119 includes the solid waste definitions and regulations on the accumulation and storage of garbage and refuse (private premises container requirements, requirements for the bundling of certain refuse offered for collection, breeding places for pests, farm animal waste and hazardous waste), regulations on the transportation of refuse (garbage, refuse and dry non-putrescible material, vehicle requirements, hazardous waste and sewage treatment residue), regulations on Commercial Haulers (permitting, liability insurance, displaying of permit number on vehicle, notifications of violations and suspension of permit, application for reinstatement of permit, and appeal, hearing and decision), regulations on the disposal of refuse (approved methods of disposal, sanitary landfill requirements, hazardous waste handling requirements, rules for disposal of sewage treatment residue and residential refuse disposal), and miscellaneous provisions (exemptions, enforcement, violations and penalties and amendments).

b. Board of County Commissioners of Calvert County, Maryland Resolution No. 13-74. Declaring Moratorium

On February 5, 1974 (amended via addendum on March 5, 1974), the Board of County Commissioners adopted Resolution Number 13-74 placing a moratorium on the commercial importation or acceptance of solid waste, trash, sludge or similar waste which originates outside the geographical area of Calvert County for disposal in or upon any land in Calvert County.

- c. Board of County Commissioners of Calvert County, Maryland Resolution No. 38-75. Resolution Adopting a Solid Waste Ordinance for Calvert County

On July 15, 1975, the Board of County Commissioners adopted Resolution Number 38-75 establishing an ordinance governing the storage, collection, transporting and disposal of solid waste throughout Calvert County (see Appendix A). Resolution Number 38-75 (with subsequent amendments) is now titled "Chapter 119, Solid Waste, Code of Calvert County (Calvert County Code of Public Laws), henceforth referred to as "The Solid Waste Ordinance", which is described in 3a above.

This ordinance established rules regarding the accumulation and storage of garbage and refuse on public and private premises (container requirements, acceptable non-putrescible refuse handling, non-permitted placing or handling refuse that would allow pest breeding or refuge, and the prohibiting of hazardous waste disposal in any public litter receptacles or "green boxes"), requirements on the transportation of refuse (transportation via approved containers in appropriate vehicles to prevent scattering, spillage or leakage), Health Department permit requirements for commercial haulers, standards for disposal of refuse (burning in an incinerator approved by the State, residential self-haul to a "green box" or compactor site [provided that only household refuse is disposed], placement in a State-permitted sanitary landfill, or a manner approved by the Health Officer and sanitary fill requirements), exemptions, Health Officer enforcement duty, penalties and remedies (outlined the fees [fine between \$10 and \$100], how the fees will be collected and provides for enforcement authority), the repealing of prior rules and regulations and provisions for amendments.

- d. Board of County Commissioners of Calvert County, Maryland Resolution No. 18-97. A Resolution Amending the Solid Waste Ordinance for Calvert County, Maryland

On April 22, 1997, the Board of County Commissioners adopted Resolution Number 18-97 amending the "Penalties and Remedies" Section of the Solid Waste Ordinance, providing civil penalties from improper disposal of solid waste. Specifically, persons that are convicted of any violation of the Solid Waste Ordinance are guilty of a misdemeanor, with fines of \$100 for the first conviction; \$250 for a second conviction and \$500 for a third conviction. This amendment provided that each day that a violation exists may be considered a separate offense. This amendment also established that the Calvert County Health Officer may bring a proceeding in the Circuit Court of Maryland for the abatement of any condition violating the Solid Waste Ordinance, and the Circuit Court may, upon hearing and for good cause shown, enjoin the continuance of the condition, regardless of all other remedies at law.

- e. Board of County Commissioners of Calvert County, Maryland Resolution No. 85-87. (Pertaining to a Budget Adjustment to set up Budget for Revenue and Expense for Tipping Fees at the Landfill)

On December 8, 1987, the Board of County Commissioners adopted Resolution Number 85-87 amending the Fiscal 1988 Expense Budget to set up a revenue and expense budget in the amount of \$100,000 for tipping fees at the Barstow Landfill.

- f. Board of County Commissioners of Calvert County, Maryland Resolution No. 86-87. (A Resolution Adopting a Tipping and User Fee at the Calvert County Landfill)

On December 8, 1987, the Board of County Commissioners adopted Resolution Number 86-87 establishing a tipping fee of \$15 per ton for all business and commercial/non-private residential haulers commencing January 1, 1988 at the Barstow Landfill. A users fee of \$34 per year per improved real property was established effective July 1, 1988.

- g. Board of County Commissioners of Calvert County, Maryland Resolution No. 14-91. Pertaining to the Adoption of Tipping and User Fee at the Calvert County Landfill

On July 30, 1991, the Board of County Commissioners adopted Resolution Number 14-91 establishing a tipping fee of \$55 per ton for all businesses and commercial and governmental haulers commencing August 2, 1991. Non-business residents hauling their own household refuse were exempt from the tip fee. A users fee of \$51 per year per improved real property was established effective July 1, 1991. The resolution extended the annual users fee to each occupant of individual dwelling units (including apartments and mobile homes) residential, and each occupant of a commercial or industrial unit (including each store or each tenant in a separately owned retail or industrial area).

- h. Board of County Commissioners of Calvert County, Maryland Resolution No. 20-93. Pertaining to the Adoption of Tipping, User and Impact Fees for Financing the Calvert County Landfill

On June 22, 1993, the Board of County Commissioners adopted Resolution Number 20-93 establishing a tipping fee of \$62 per ton for all businesses and commercial and governmental haulers commencing July 1, 1993. Non-business residents hauling their own household refuse were exempt from the tip fee. A users fee of \$63 per year per improved real property was established effective July 1, 1993. A tipping fee of \$120 per ton was established for tires received at the landfill. A building impact fee was established at a rate of \$350 per each new residential dwelling and \$0.11 per gross square foot of area for each new or converted commercial, industrial or institutional construction (including places of worship and public facilities). Identification stickers were to be provided to Calvert County residents for all non-commercial vehicles using the customer convenience centers or the Appeal Municipal Landfill with the intent that only vehicles displaying a County sticker would be authorized to dump household refuse at the sites. Residents were required to display satisfactory proof of residence in order to obtain a County identification sticker.

- i. Board of County Commissioners of Calvert County, Maryland Resolution No. 42-99. Pertaining to the Adoption of User Fees at the Calvert County Landfill

On November 9, 1999, the Board of County Commissioners adopted Resolution Number 42-99 establishing a users fee of \$103 per year per improved real property was established effective July 1, 1999.

- j. Calvert County Comprehensive Plan, Adopted December 14, 2004

The last major Comprehensive Plan review was adopted in December, 2004. The Calvert County Comprehensive Plan provides a framework for establishing a long-range action plan for solid waste management. The document is a general guidance tool and is not intended to provide specific guidelines regarding solid waste management. Issues included in the comprehensive plan related to solid waste management are land use, general status report of solid waste management issues, policy considerations, and implementation strategies.

- k. Calvert County Zoning Ordinance, Maryland, Revised August 7, 2007

The Calvert County Zoning Ordinance implements planning policies and objectives presented in the Calvert County Comprehensive Plan. The Calvert County Comprehensive Solid Waste Management Plan serves as a policy guide as the Board of County Commissioners consider amendments to the Calvert County Zoning Ordinance.

- l. Calvert County Recycling Plan

Calvert County adopted a Recycling Plan in 1993 that is incorporated as part of this Solid Waste Management Plan which outlines the strategy for reaching the recycling goal established for Calvert County in the Maryland Recycling Act. This plan is the foundation of Calvert County's recycling program. The County has consistently attempted to exceed the minimum goal of 15% diversion set forth in the Act for counties under 150,000 population. The recycling plan fulfills the requirements of the 1988 Maryland Recycling Act, as confirmed by its approval by the MDE. Per MDE requirements, the Calvert County Recycling Plan has been incorporated into the Solid Waste Management Plan.

4. Incorporated Towns and Federal Facilities

The Annotated Code of Maryland and the COMAR address the potential for incorporation of subsidiary solid waste plans developed by individual municipalities into County Comprehensive Solid Waste Management Plans. The specific citations from the codes are as follows:

- a. Annotated Code of Maryland, Title 9-504 - "(a) Required incorporation. - To

the extent that the incorporation will promote the public health, safety, and welfare, each county plan shall incorporate all or part of the subsidiary plans of each town, municipal corporation, sanitary district, privately owned facility, or local state, or federal agency that has existing or planned development in that county."

- b. COMAR 26.03.02.B - "Each county plan shall include all or part of the subsidiary plans of the towns, municipal corporations, sanitary districts, privately owned facilities, and local, state and federal agencies having existing, planned or programmed development within the county to the extent that these inclusions shall promote the public health, safety, and welfare. These subsidiary plans may be incorporated by reference into the county plan."

While COMAR provides Maryland municipalities the option to develop their own, or portions of their own solid waste plan and have it incorporated into the County Comprehensive Solid Waste Management Plan, the Towns of North Beach and Chesapeake Beach have chosen to not have separate solid waste management plans. The solid waste management practices of these municipalities are reflected in the Calvert County Comprehensive Solid Waste Management Plan.

E. AMENDMENT OF THE PLAN

Any individual, agency, party or firm may request an amendment of the Plan by submitting a request to the Calvert County Department of Public Works. The request will be processed as follows:

1. The Division of Solid Waste will obtain comments and recommendations from appropriate agencies, which include the County Health Department, the Department of General Services, the Department of Planning & Zoning, and the County Planning Commission.
2. Recommendations from other agencies will be submitted to the County Commissioners.
3. After appropriate advertisement and notifications, a public hearing will be conducted by the County Commissioners, who will then officially adopt, disapprove, or modify the proposed amendment.
4. If a proposed amendment of the Plan is adopted by the County, the proposed amendment will be submitted to the Maryland Department of the Environment for final State approval.

F. ADVISORY BOARDS AND COMMISSIONS

The following Boards, Commissions and Councils are appointed by the County

Commissioners to work with the various departments and divisions, and would routinely review the Comprehensive Solid Waste Management Plan.

1. Planning Commission: With staff support from the Department of Planning and Zoning, the Planning Commission approves subdivision plans, makes recommendations on proposed land rezoning, and prepares plans for development and growth in the County for the County Commissioners.
2. Zoning Board of Appeals: Also receiving staff support from the Planning & Zoning Department, the Board of Appeals hears appeals on decisions made with reference to the County Zoning Ordinance and acts on applications for special exceptions as provided in the Zoning Ordinance.
3. Environmental Commission: Makes recommendations to the Board of County Commissioners and Department of Planning and Zoning pertaining to matters affecting the environment.

**Figure I-1
Calvert County Government Structure**

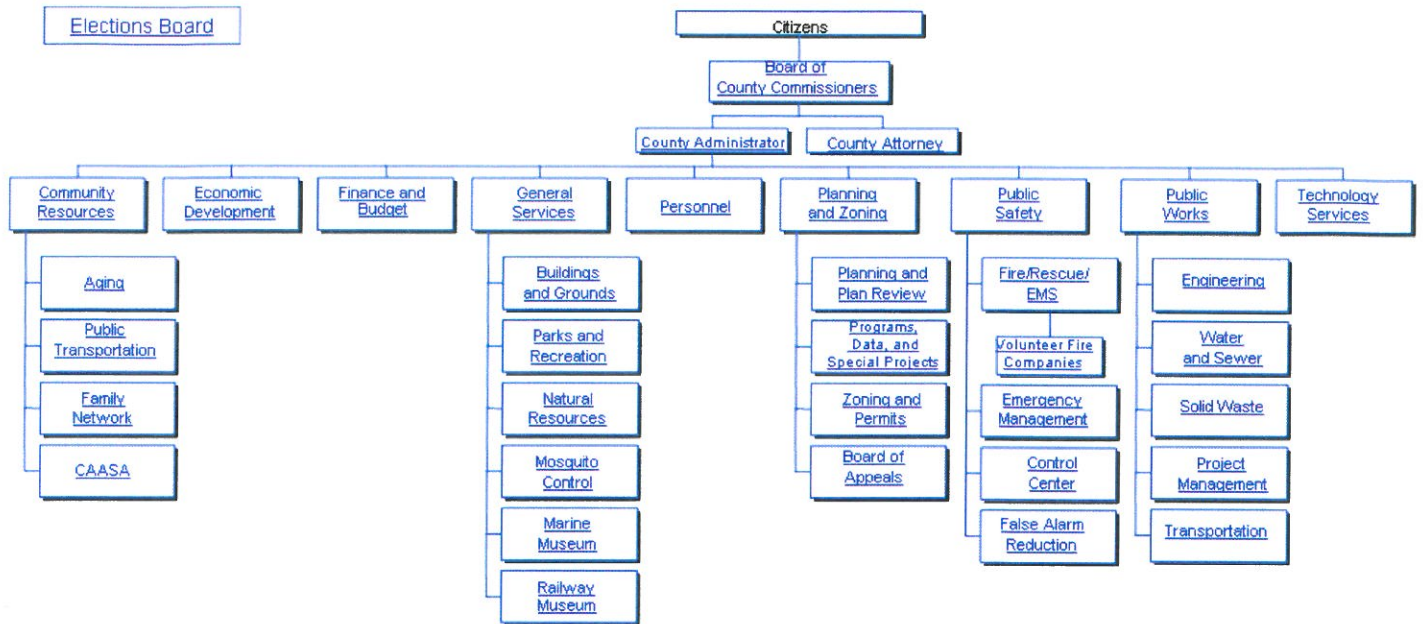


Figure I-2
Calvert County Division of Solid Waste Structure

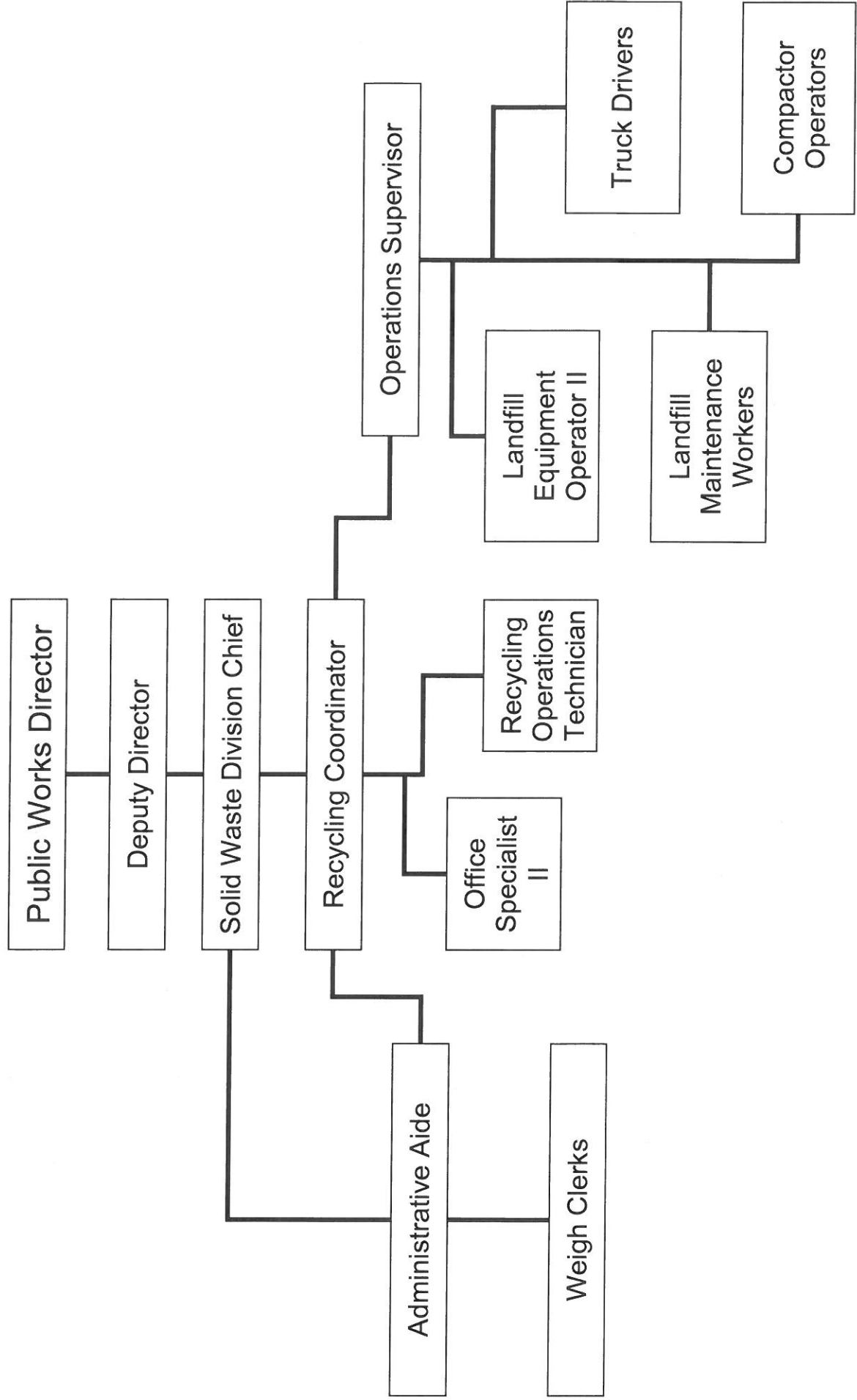
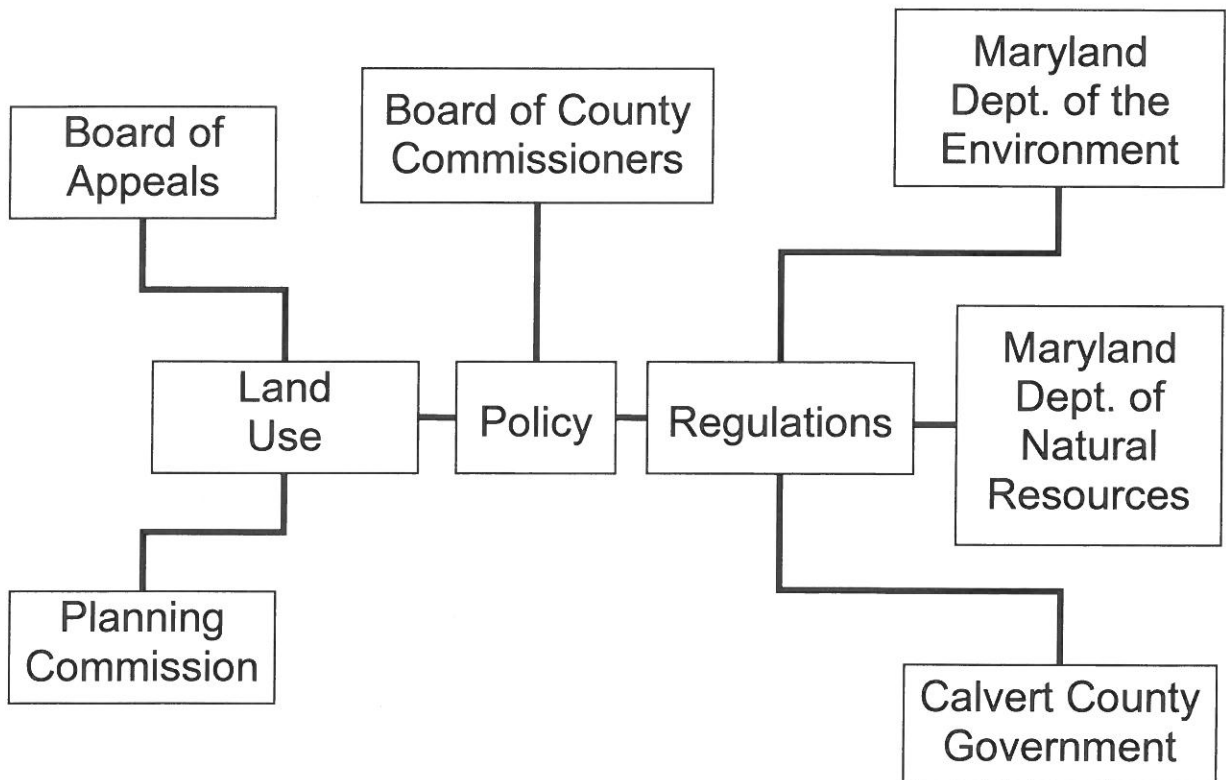


Figure I-3

**Administration of the Comprehensive
Solid Waste Management Plan**

Calvert County, MD



CHAPTER TWO

COUNTY DEMOGRAPHICS

A. POPULATION

Between 1970 and 1980 Calvert County's population increased from 20,682 to 34,638, an average annual increase of 5.19% and an overall increase of 67.5% for the decade. By 1990, the population had increased to 51,370, indicating a similar (5.01%) average annual increase for the 1980's. The average annual growth rate for the State for that period was only 1.03%. The U. S. Census Bureau reported a population of 74,563 by the year 2000. The County estimates that population will reach nearly 91,000 by the year 2010. Population growth by election district is shown in Table II-1.

Growth management is necessary to direct the overall development in the County. The 2004 Comprehensive Plan calls for new development to be directed to existing Town Centers (Dunkirk, Owings, Chesapeake Beach and North Beach, Huntingtown, Prince Frederick, St. Leonard, Lusby, and Solomons), which will allow for increased commercial, industrial and residential uses and provide for maximum utilization of services and facilities and ultimately reduce County expense.

Continued growth in Calvert County is expected. There are a number of forces stimulating growth which are likely to continue into the foreseeable future, which include the following:

1. Taxes are high in the Washington/Baltimore metropolitan area compared to the outer fringes, or suburbs, such as Calvert County.
2. There is a continuing desire for Calvert County's rural lifestyle and property with water access.
3. Access to the urban/suburban job market is relatively good.
4. Growth management practices in adjacent counties may result in a spill-over effect to Calvert County.
5. Calvert County is an attractive retirement area for some in the metropolitan area.
6. Calvert County has a good school system.

Due to growth management tools in place, population is not projected to grow at as rapid or steady a rate as it did between 1970 and 2000; however, early fluctuations can be expected as a response to economic forces affecting the entire country. It is likely, however, that Calvert County will continue to grow as long as it is perceived to be a pleasant and well functioning alternative to more urban or suburban communities.

For planning purposes, the official population projections which will be used are those prepared by the Calvert County Department of Planning and Zoning shown in Table II-1.

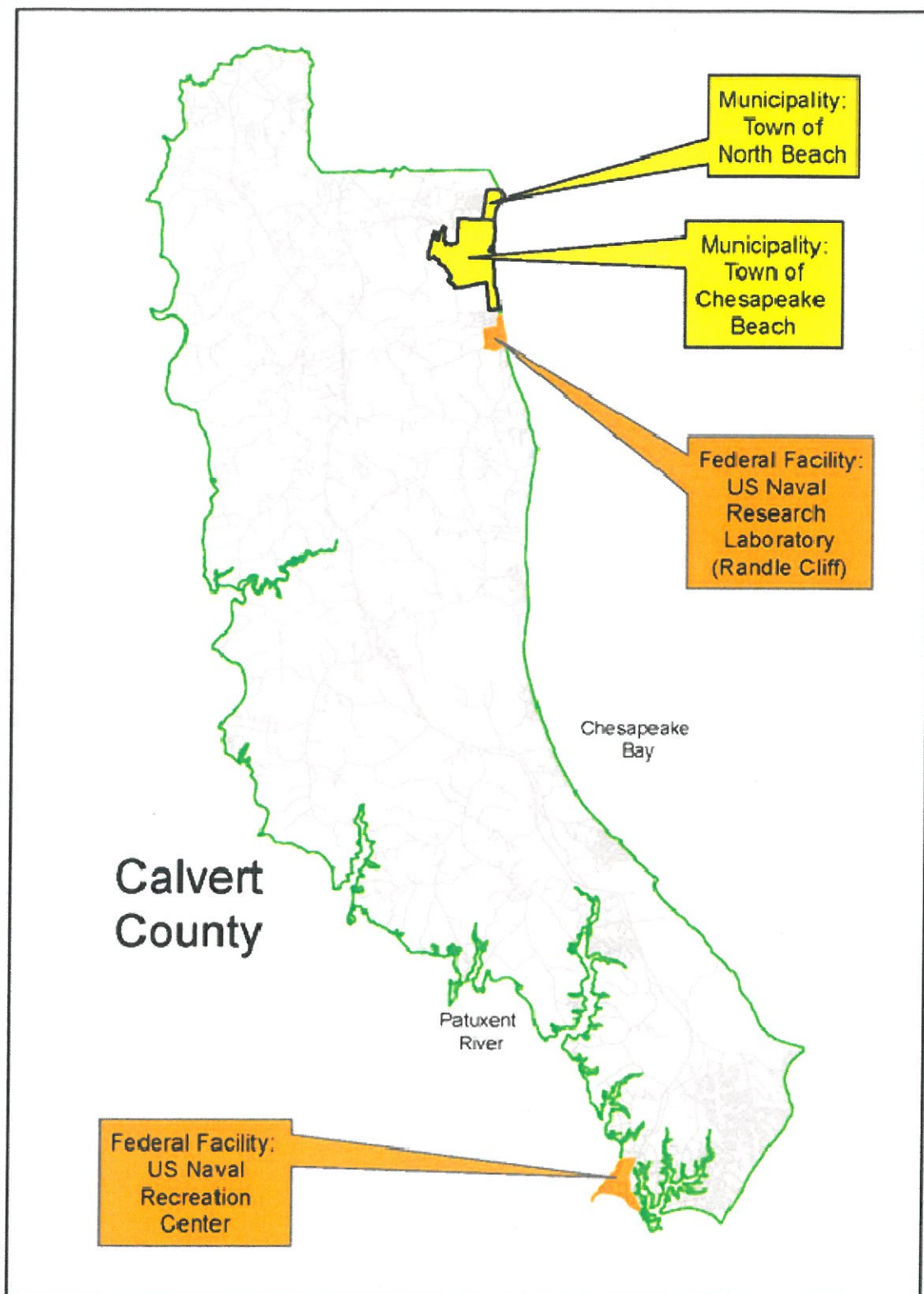
**Table II-1
Population Projections¹**

Year	County Projections (January 2006)	State Projections (September 2005)
2006	86,800	89,140
2007	88,000	90,780
2008	88,900	92,420
2009	89,600	94,060
2010	90,700	95,700
2011	91,500	96,200
2012	92,200	96,700
2013	92,900	97,200
2014	93,500	97,700
2015	94,000	98,200
2016	94,000	98,700
2017	94,800	99,200
2018	95,200	99,700

The following Figure II-1 shows the locations of Municipalities and Federal facilities in Calvert County.

¹Source: Calvert County Department of Planning and Zoning, January, 2007 and Maryland Department of Planning, September, 2006

**Figure II – 1 Calvert County, Maryland
Location of Municipalities and Federal Facilities**



B. ZONING

The Calvert County Zoning Ordinance limits the development of solid waste and recycling facilities based on zoning and land use regulations. As mandated in the Calvert County Comprehensive Plan, the Zoning Ordinance is adopted and regularly updated to regulate land uses as part of the effort to promote the health, safety and general welfare of Calvert County residents. Appendix 1 provides a list of the pertinent land uses from the Zoning Ordinance, in what zoning districts they are permitted, and under what conditions these uses are allowed outside town centers.

C. COMPREHENSIVE LAND USE PLAN

According to Maryland law, local jurisdictions are required to revisit their comprehensive plans every six years. The last major Plan review culminated with a new Plan adopted in December, 2004. The 2004 Calvert County Comprehensive Plan lists the following Waste Management Objectives pertaining to solid waste:

1. Ensure the safe and environmentally sound disposal of solid waste, wastewater, and hazardous waste generated in Calvert County.
2. Promote conservation of resources; e.g., solid waste source reduction, reuse and recycling of waste, and water conservation.
3. Investigate efficiency and effectiveness of regional approaches to waste management conservation.

To achieve these objectives, the Plan calls for the following actions:

1. Increase recycling (measured as a percentage of the waste stream) and consider mandatory recycling, where and when long-term benefits result. Explore increasing the types of waste stream items that can be recycled (action I-94).
2. Encourage franchised curbside collection and recycling (action I-95).
3. Adopt a policy that ensures that the majority of land-clearing debris, yard waste, and construction waste is converted to mulch or is in other ways recycled or reused rather than landfilled (action I-96).
4. Work jointly with local businesses on source reduction (e.g. decrease packaging), reuse, and recycling (action I-97).
5. Provide public education on source reduction, reuse, and recycling of solid waste materials (action I-98).
6. Explore the feasibility and environmental acceptability of a waste-to-energy plant in the Southern Maryland Region (action I-99).
7. Increase enforcement of anti-littering regulations and increase fines (action I-100).
8. Develop guidelines on how to dispose stable wastes in a sustainable, non-polluting manner (action I-101).

CHAPTER THREE

DESCRIPTION OF EXISTING COLLECTION, RECYCLING, PROCESSING AND DISPOSAL SYSTEM

The following sections describe the waste and recyclables generated and the collection, processing/disposal and recycling systems serving Calvert County, Maryland.

A. SUMMARY OF WASTE STREAM QUANTITIES (EXISTING AND PROJECTED)

Tables III-1(a), III-1(b), III-2(a) and III-2(b) present reported recycling quantities for 2006. Waste generation in the County in 2006 is shown in Table III-3 and projections of future waste generation for 2007 through the Year 2018 are shown in Table III-4. It should be noted that very little of the waste quantities generated in Calvert County are disposed in Calvert County's Appeal Municipal Landfill. As is discussed in following sections, a small quantity of waste is estimated to be disposed on-site, certain residential, commercial and institutional waste is recycled, and the substantial waste quantities leave the County for processing or disposal through the Calvert County Transfer Station, owned and operated by Garnet of Maryland, Inc. under a 25 year contract with the County. The waste received at the Calvert County Transfer Station includes, but is not limited to, residential, commercial, institutional and certain industrial waste collected in Calvert County by private collectors; residential waste from the County's Convenience Centers and the Towns of North Beach and Chesapeake Beach; certain construction and demolition waste and other municipal solid waste from Calvert County; the substantial quantity of municipal solid waste generated in adjacent St. Mary's County; and certain municipal solid waste from other parts of Southern Maryland.

The waste received at the Calvert County Transfer Station is loaded into open top transfer haulers, which are tarped and hauled to the King George Landfill, operated by Waste Management, Inc. in King George County, Virginia. This lined, leachate controlled facility is one of the larger megafills in the East. It is permitted by the Virginia Department of Environmental Quality, receives waste by truck and rail, and is reported to have received over 1.2 million tons of waste in 2006, with a remaining permitted capacity of 28.039 million tons (estimated 21 years) as of December 31, 2006. In 2006, 176,465 tons is reported to have been delivered to King George Landfill from the Calvert County Transfer Station. Of that quantity, 81,300 tons represented waste (66,698 tons of MSW, and 13,766 tons of C&D material) originating in Calvert County and 96,002 tons represented out-of-County waste received at Calvert County Transfer Station. In addition, 4,592 tons of sewage sludge was transported from Calvert County for disposal at King George Landfill in 2006. Almost half of the out-of-County waste, 47,989 tons, was from St. Mary's County, Maryland.

The County's Appeal Municipal Landfill is estimated to have remaining capacity for

approximately 1.9 million cubic yards, including the remaining capacity in the active cell and the permitted capacity in the inactive cell. If all waste generated for processing or disposal in the County (as shown in the projections in Table III-4) were to be disposed in the Appeal Municipal Landfill (which is highly unlikely), there would still be more than 15 years capacity at the Appeal Municipal Landfill.

1. Residential Waste

Approximately 50 percent of the estimated residential waste generated in the County is received at the seven (7) County operated Convenience Centers (also known as Compactor Sites or Drop-off Locations). As of 2007, Appeal, Barstow, Ball Road, Huntingtown, Lusby, Mt. Hope, and Plum Point Convenience Centers are operational. Figure III-1 shows the location of existing Convenience Centers. Though the Convenience Centers are available for all County residents, residents may also contract for waste collection with private waste haulers. A list of major waste haulers serving Calvert County as of 2006 is shown in Exhibit III-1. In addition, it is possible some residents may dispose of wastes on their property through burning, composting, or burying.

The Convenience Centers are open from 7:00 a.m. to 7:00 p.m., Monday through Saturday, with the exception of the Appeal Convenience Center, which is open from 6:00 a.m. to 4:00 p.m. Monday through Friday and 7:00 a.m. to 4:00 p.m. on Saturday. Special Sunday hours for the Appeal and Barstow Convenience Centers are from 12 p.m. to 7:00 p.m. Special Sunday hours for the Mt. Hope Convenience Center are from 10 a.m. to 7:00 p.m. Table III-6 shows waste quantities received at each of the Convenience Centers in 2006.

The residents of the Town of North Beach receive waste collection services through a municipal contract with Southern Maryland Recycling, Inc. The municipal trash is taken to the Calvert County Transfer Station for transfer and disposal and the Town is charged the standard tipping fee by the County. Commercial trash in the Town of North Beach is collected by commercial haulers as this is not a service that is provided by the Town. Residents of the Town of Chesapeake Beach receive residential waste collection through a contract that the Town administers with Calvert Trash, a division of Republic Waste Services, Inc. This waste is also delivered to the Calvert County Transfer Station for transfer and disposal and the Town is charged the standard tipping fee by the County.

Some County residents deliver waste directly to the Calvert County Transfer Station or use citizen waste drop-off at Appeal Convenience Center.

Table III-7 presents a summary of the estimated residential waste generated in the County based on residential waste collected at County Convenience Centers and residential waste estimated to be collected by private haulers (including residential waste from the Towns of North Beach and Chesapeake Beach) in 2006.

Incorporated Municipalities

Calvert County has two incorporated municipalities: (1) the Town of North Beach; and (2) the Town of Chesapeake Beach. Residents in the Towns receive waste collection services through contracted services (as discussed in section A.1. above). In 2006, the County reports that approximately 802 tons of residential waste from the Town of North Beach and 1,894 tons of residential waste from the Town of Chesapeake Beach were received for disposal through the Calvert County Transfer Station. In addition, the Town of North Beach's contractor delivered 3.42 tons of recyclables to the Appeal Convenience Center. The Town of Chesapeake Beach also contracts for curbside recycling services and an estimated 349 tons were reportedly delivered by the contractor directly to market at CRINC in Prince George's County.¹ Businesses in the Towns must contract for waste collection independently or self-haul wastes to a processing/disposal site. Waste quantities from the municipalities are included in the quantities shown in Table III-7.

Though the Towns of North Beach and Chesapeake Beach do not have separate solid waste management plans, these jurisdictions are incorporated into the County Solid Waste Management Plan, and the municipalities benefit from the County's solid waste management system.

2. Commercial Waste

Commercial waste includes garbage and refuse from businesses that is collected by a private hauler or self-hauled by the generator to the Calvert County Transfer Station or out-of-County. Commercial waste is not allowed at the County Convenience Centers, though small amounts of commercially generated solid waste or recyclables may potentially be delivered to these locations. Refuse collection from commercial establishments is the responsibility of the owner or user of the establishment.

3. Industrial Waste

COMAR defines industrial waste as any liquid, gaseous, solid, or other substance, or combination thereof, resulting from any process of industry, manufacturing, trade, or business; or the development of any natural resource, including agriculture. There are limited industrial waste generators in Calvert County. There are reportedly no "significant" generators of industrial process wastes, liquids, and sewage sludge in the County. Selected Industrial operations were surveyed as part of the development of this Plan Update. A list of selected Industrial Generators operating in the County is presented in Table III-8.

As indicated, the firms contacted report that their waste is handled by commercial haulers and no industrial waste is reported to be generated that requires special handling.

¹ Recycling Tonnage figured received from Calvert Trash via Calvert County staff.

In general, the substantial portion of waste generated by industrial operations in the County is recycled/reused, self-hauled, or hauled by private hauler to the Calvert County Transfer Station. Indications are that County industries also are seeking to further reduce and recycle the waste they generate.

4. Institutional Waste

Institutional waste includes waste generated by Federal, State, County, or local government offices and facilities, schools, prisons, and other institutional entities. Institutional waste is typically collected as commercial waste (either self-hauled or hauled by private collector to the Calvert County Transfer Station). Some key institutional waste generators are addressed below.

a. Calvert County Government

With the exception of special projects, park/special event waste, and WWTP sewage sludge, Calvert County government offices and facilities receive contracted waste collection from a local private collector.

b. Schools

As of 2006 in Calvert County, there are a total of 41 schools -- 25 public schools and 16 non-public, or private, schools. Approximately 16,987 students are enrolled in the public school system. This includes County alternative schooling and special education, but excludes vocational schools. There are approximately 1,397 students in the non-public schools system. The public school system includes twelve elementary schools with an enrollment of 7,184; six middle schools (6th through 8th grades) with an enrollment of 4,121; and four high schools with an enrollment of 5,594. The public school system also supports a special education school with an enrollment of 66 and a vocational school through the Calvert County Career Center. There are also 22 students in the County alternative school system. The private school system has eight kindergarten/pre-kindergarten schools, four elementary schools and four combined (elementary and secondary) schools. The breakdown of student enrollment in the non-public schools is by grade level rather than by type of school. Table III-9 shows the Calvert County schools and total student enrollment.

Calvert Trash provides waste and recycling collection for public schools in Calvert County, and the quantity of waste collected from these institutions is included in the Commercial, Industrial, Institutional waste quantities estimated for the year 2006 in Table III-3.

It is the responsibility of the Calvert County Board of County Commissioners (BOCC) to ensure the implementation of the County Public Schools' recycling programs. The BOCC directs that the Calvert County Board of Education (CCBOE) and the Community College of Southern Maryland Board of Trustees (CCSMBOT) have the responsibility for developing the recycling plans and implementing the recycling programs for all of their respective schools. If needed, the BOCC may also direct the Calvert County

Department of Public Works, Division of Solid Waste to develop recycling plans and implement recycling programs for the respective schools.

Calvert County Public School Recycling Plan:

This plan is to be implemented in compliance with State Law as of October 1, 2010.

Calvert County Public Schools' recycling plans must be completed no later than October 1, 2010 and public school recycling programs must be operating no later than October 1, 2010. To date, all Calvert County Public Schools have recycling plans in place and are participating in a recycling program.

1) Designation of School Recycling Program Implementation and Responsibility:

- a) CCBOE has the responsibility for securing a recycling contract for the County's public schools. This shall be awarded annually and become effective each July 1st. The current contract is for a single-stream program that accepts paper, newspaper, cardboard, glass bottles, steel and aluminum cans, and plastic bottles for recycling. This may or may not change based on market conditions and requirements.
- b) The recycling contractor is responsible for the marketing of the collected recyclables. This is currently performed by Calvert Trash. This may or may not change based on market conditions and requirements. The method of marketing may or may not change based on market conditions and requirements.
- c) The recycling contractor must report, by February 14th of each year, to the County School Maintenance Department Director (Director) the amount and type of recyclables collected for the previous calendar year (e.g., the February 14, 2010 contractor report would contain the totals for calendar year 2009).
- d) The recycling contractor is responsible for supplying centralized recycling containers for each county public school.
- e) The CCBOE has designated the Director as responsible for the development and implementation of a trash and recycling plan/program for each school. At a minimum:
 - The Director shall report to the CCBOE and the Department of Public Works, Division of Solid Waste, by March 1st, on the amount and types of recyclable materials collected each calendar year in a format determined by the Department of Public Works, Division of Solid Waste.
 - Each county public school shall collect all of the materials specified in the CCBOE awarded recycling contract (B.1.a., above) for recycling.

- All county public schools shall also collect, but not be limited to, printer cartridges, electronics, metal, light bulbs, textiles, and vegetative material for recycling.
 - It is the responsibility of the custodial staff at each county public school to collect recyclables for transport to the contractor recycling bins from the school recycling bins throughout the school.
 - The Director shall set a schedule for the collection of recyclables from each school by the recycling contractor.
- f) The CCBOE is responsible for purchasing recycling bins, distributed throughout each school (e.g., in classrooms, by copiers, etc.), for each school.
- g) Each county public school is free to pursue their own separate recycling contract for materials as a method of increasing their school's income to fund their school's programs. Any independent contract a school, or a club within the school, may enter into will not exempt the school from having to collect the materials identified in the CCBOE contract (B.1.a., above).
- The School or club must report to the Director and the Division of Public Works, Division of Solid Waste, by February 14th, on the amount and types of recyclable materials collected each calendar year, independent of the CCBOE contract.
- h) The Director shall advise the CCBOE and the Division of Public Works, Division of Solid Waste, of any recycling issues or non-compliance of any school within 30 days of the issue arising. Part of the briefing will include the steps needed to correct any issues.
- i) Corrective actions must begin within 60 days of the issue arising.
- j) The CCBOE may request to the BOCC, that their trash and recycling program be operated by another public agency (i.e., Calvert County Department of Public Works, Division of Solid Waste).
- k) The BOCC has the responsibility to direct another public agency to operate the Calvert County Public School's trash and recycling program if deemed necessary by the BOCC or upon request from the CCBOE.
- l) The BOCC must make the decision to assign a trash and recycling program to another public agency within 30 days of the CCBOE request.
- m) Upon notification by the BOCC to the Calvert County Department of Public Works, Division of Solid Waste, to perform collection, the Department of Public Works, Division of Solid Waste will either prepare bid specifications for collection within thirty (30) days and award a contract for collection within

sixty (60) days, or perform the collection itself within one (1) month or prepare bid specifications to acquire equipment to perform collection within nine (9) months of notification.

- n) The Calvert County Department of Public Works, Division of Solid Waste will review the CCBOE recycling plan annually, based upon the annual recycling totals reported in accordance with B.1.e., and recommend changes to the BOCC and CCBOE by May 1st of each year.

2) School Facilities Participating in the Collection of Recyclables:

- a) The CCBOE shall direct the Director to bring all Calvert County public schools into compliance with the CCBOE trash and recycling plan. Schools include:

Elementary

Appeal 11655 H. G. Trueman Rd., Lusby	410-535-7800
Barstow 295 William Rd., Prince Frederick	443-486-4770
Beach 7900 Old Bayside Rd., Chesapeake Beach	410-257-1512
Calvert 1450 Dares Beach Rd., Prince Frederick	410-535-7311
Dowell 12680 H. G. Trueman Rd., Lusby	410-535-7802
Huntingtown 4345 Huntingtown Rd., Huntingtown	410-535-7212
Mt. Harmony 900 West Mount Harmony Rd., Owings	410-257-1611
Mutual 1455 Ball Rd., Port Republic	410-535-7700
Patuxent 35 Appeal Ln., Lusby	410-535-7830
Plum Point 1245 Plum Point Rd., Huntingtown	410-535-7391
St. Leonard 5370 St. Leonard Rd., St. Leonard	410-535-7714

Sunderland
150 Clyde Jones Rd., Sunderland 410-257-1501

Windy Hill
9550 Boyds Turn Rd., Owings 410-257-1539

Middle

Calvert
435 Solomons Island Rd., Prince Frederick 410-535-7355

Mill Creek
601 Margaret Taylor Rd., Lusby 410-535-7824

Northern
2954 Chaneyville Rd., Owings 410-257-1622

Plum Point
1475 Plum Point Rd., Huntingtown 410-535-7400

Southern
9615 H. G. Trueman Rd., Lusby 410-535-7877

Windy Hill
9560 Boyds Turn Rd., Owings 410-257-1560

Senior

Calvert Career and Technology Center
330 Dorsey Rd., Prince Frederick 410-535-7450

Calvert
600 Dates Beach Rd., Prince Frederick 410-535-7330

Huntingtown
4125 Solomons Island Rd., Huntingtown 410-414-7036

Northern
2950 Chaneyville Rd., Owings 410-257-1519

Patuxent
12485 Southern Connector Blvd., Lusby 410-535-7865

Other Schools and Facilities

Adult Education 410-535-7382
Hunting Creek Annex, 4105 Old Town Rd., Huntingtown

Arthur Storer Planetarium

600 Dares Beach Rd., Prince Frederick	410-535-7339
Calvert Career Center 330 Dorsey Rd., Prince Frederick	410-535-7450
Calvert Country School 1330 Dares Beach Rd., Prince Frederick	410-535-7300
Brooks Administrative and Instructional Facility 1305 Dares Beach Rd., Prince Frederick	410-535-1700

C. Community College of Southern Maryland Recycling Plan:

This plan is to be implemented in compliance with State Law as of October 1, 2010.

Community College of Southern Maryland Prince Frederick Branch (CCSMPFB) recycling plan must be completed no later than October 1, 2010 and the CCSMCPFB recycling program must be operating no later than October 1, 2010. To date, the CCSMCPFB has a recycling plan in place and is participating in a recycling program.

The Community College of Southern Maryland Board of Trustees (CCSMBOT) oversees and funds the CCSMPFB of the CCSM. The CCSMBOT is responsible for the implementation of a recycling plan for the CCSMPFB.

1) Designation of School Recycling Program Implementation and Responsibility:

- a) CCSMBOT has the responsibility for securing a recycling contract for the CCSMCPFB. This shall be awarded annually and become effective each July 1st. The current contract is for a single-stream program that accepts paper, newspaper, cardboard, glass bottles, steel and aluminum cans, and plastic bottles for recycling. This may or may not change based on market conditions and requirements.
- b) The recycling contractor is responsible for the marketing of the collected recyclables. This is currently performed by Southern Maryland Recycling. This may or may not change based on market conditions and requirements. The method of marketing may or may not change based on market conditions and requirements.
- c) The recycling contractor must report, by February 14th of each year, to the College Maintenance Department Director (College Director) the amount and type of recyclables collected for the previous calendar year (e.g., the February 14, 2010 contractor report would contain the totals for calendar year 2009).
- d) The recycling contractor is responsible for supplying centralized recycling containers for each county college.

- e) The CCSMBOT has designated the College's Director as responsible for the development and implementation of a trash and recycling plan/program for each college. At a minimum:
- The College Director shall report to the CCSMBOT and the Division of Public Works, Division of Solid Waste, by March 1st, on the amount and types of recyclable materials collected each calendar year from each location in a format determined by the Department of Public Works, Division of Solid Waste.
 - The CCSMCPFB shall collect all of the materials specified in the CCSMBOT awarded recycling contract (C.1.a., above) for recycling.
 - The CCSMCPFB shall also collect, but not be limited to, printer cartridges, electronics, metal, light bulbs, textiles, and vegetative material for recycling.
 - It is the responsibility of the custodial staff at CCSMCPFB to collect recyclables for transport to the contractor recycling bins from the college recycling bins throughout the college.
 - The College Director shall set a schedule for the collection of recyclables from the CCSMCPFB by the recycling contractor.
- f) The CCSMBOT is responsible for purchasing recycling bins, distributed throughout the CCSMCPFB (e.g., in classrooms, by copiers, etc.), for the CCSMCPFB.
- g) The College Director shall advise the CCSMBOT and the Division of Public Works, Division of Solid Waste, of any recycling issues or non-compliance of the CCSMCPFB within 30 days of the issue arising. Part of the briefing will include the steps needed to correct any issues.
- h) Corrective actions must begin within 60 days of the issue arising.
- i) The CCSMBOT may request to the BOCC that the CCSMCPFB trash and recycling program be operated by another public agency (i.e., Calvert County Department of Public Works, Division of Solid Waste).
- j) The BOCC has the responsibility to direct another public agency to operate the CCSMCPFB trash and recycling program if deemed necessary by the BOCC or upon request from the CCSMBOT.
- k) The BOCC must make the decision to assign a trash and recycling program to another public agency within 30 days of the CCSMBOT request.

- l) Upon notification by the BOCC to the Calvert County Department of Public Works, Division of Solid Waste, to perform collection, the Department of Public Works, Division of Solid Waste will either prepare bid specifications for collection within thirty (30) days and award a contract for collection within sixty (60) days, or perform the collection itself within one (1) month or prepare bid specifications to acquire equipment to perform collection within nine (9) months of notification.
 - m) The Calvert County Department of Public Works, Division of Solid Waste will review the CCSMBOT recycling plan annually, based upon the annual recycling totals reported in accordance with B.1.e., and recommend changes to the BOCC and CCSMBOT by May 1st of each year.
- 2) College Facilities Participating in the Collection of Recyclables:
- a) The CCSMBOT shall direct the College Director to bring the CCSMCPFB into compliance with the CCSMBOT trash and recycling plan. The college included in this plan is the:

Community College of Southern Maryland Prince Frederick Branch
115 J. W. William Rd., Prince Frederick 443-550-6000

c. Calvert County Detention Center

The Calvert County Detention Center is located at 325 Stafford Road in Barstow and has a rated capacity of 172 inmates, providing maximum, medium, and minimum inmate housing areas. The facility is staffed by 67 full-time employees and had an average daily population of 212 in 2006. The Detention Center utilizes two 8-yard boxes for trash, collected three days per week (Monday, Wednesday, and Friday) by Calvert Trash (a division of Republic Waste Services, Inc.). In addition, the County collects mixed paper and cardboard for recycling from the Center, and those quantities are embedded in the County's recyclables tonnage numbers.

d. Federal Facilities

(1) Naval Research Laboratory - Chesapeake Bay Detachment

One significant institutional waste generator in the County is the Naval Research Laboratory - Chesapeake Bay Detachment.¹ The Laboratory is located on 168 acres in Randle Cliff and has 80 full-time government and contracted employees. Approximately 50 additional researchers use the facility throughout the year. The facility has a solid waste management plan and a recycling plan.

¹ Information on the solid waste management system of the Naval Research Laboratory - Chesapeake Bay Detachment was provided via memorandum from Steve Harrison, Director, Research and Development Services Division, June, 2007 and supplemented via phone by Michelle Hepler, US Navy, August 2007.

The Laboratory contracts with Bay Area Disposal for waste hauling of 25 total – 2 cu. yd., 4 cu. yd., 6 cu. yd., 8 cu. yd., 30 cu. yd., and 32 gallon – containers located throughout the facility. The containers are collected on average twice per week. Based on volume capacity and service frequency, the waste services contractor reports an estimated generation of 120 tons per year of Municipal Solid Waste by the facility. This waste (general office trash, etc.) is picked up by Bay Area Disposal and either delivered to Calvert County's Calvert County Transfer Station in Lusby or transferred to another vehicle at Bay Area Disposal's operation off Skinners Turn Rd. in Owings, MD.

Paper, aluminum cans, glass bottles, plastic bottles, and batteries are the materials recycled at the facility; less than one ton of recycled material is collected from the facility each year. These materials are transported by support staff to the Naval Research Laboratory in Washington, DC and incorporated into their recycling materials.

The Laboratory reports generation of less than 1 ton per year of hazardous wastes such as boiler soot, gasoline, and oil. Clean Harbors Environmental Services, Inc. is contracted by the Naval Research Lab to dispose of hazardous waste materials in accordance with the Code of Federal Regulations, Titles 40 and 49. The materials are reported to be transported to licensed disposal sites.

(2) Solomons Annex

The U.S. Navy's "Solomons Annex" in Calvert County includes: (1) the Patuxent River Naval Air Station Annex (Pax River Annex), which is a separate element of the Patuxent River Naval Air Warfare Center - Aircraft Division located in St. Mary's County; and (2) a number of other civilian and military tenants, including the Naval District Washington Recreational Center (NDW), which occupies the majority of land on the Annex (approximately 222 acres of the 296 total acres of the facility).

The Pax River Annex houses an industrial complex and certain equipment and was shown to generate solid waste and recyclables, including certain hazardous waste, in prior editions of Calvert County's Solid Waste Management Plan. In 2006, Solomons Annex reportedly generated a total of over 7.4 tons of various hazardous wastes. These hazardous wastes included over 5 tons of Paint, 0.85 tons of Blast Filters, and just over 0.5 tons of Alodine & Debris. Other materials reportedly generated in smaller quantities were: PD-880/Clean Cmpd, HW Debris, Bulbs, Batteries, Gas/Oil Mix, Hyd Fld & Freon, and Ether Cyl.¹

The NDW Recreational Center, which includes campsites, athletic fields, housing units, and swimming pools, also generates certain waste and recyclables.

The Patuxent River Naval Air Station Solid Waste and Recycling Program submits updated waste, recyclables quantities and management practice information on a yearly

¹ Information on hazardous waste generation at Pax River/Solomons Annex provided via fax dated June 11, 2007, by Dawn Olson, Navy Environmental Department.

basis to the Calvert County Department of Solid Waste Office. Collection of trash is contracted out to IAP World Services and then sub contracted out to Waste Management, Inc. Recyclables are collected by the Pax River NAS Recycling Program. Trash collection is three (3) times per week. Recyclables are picked up once per week, twice per week in the summer months.¹

5. Land-clearing Debris

Land-clearing debris is limited to the types of waste associated with land-clearing operations, including earthen materials, such as clay, sand, gravel, and silt; topsoil; tree stumps; root mats; brush and limbs; logs; vegetation; and rock. In Calvert County, land-clearing debris is disposed at private landfills. These materials are not permitted to be disposed of into the Appeal Municipal Landfill because this type of debris consumes valuable space. It shall remain the responsibility of the generator to have an area approved for this type of operation, which includes securing the necessary permits from all agencies involved, including the Maryland Department of the Environment.

There are four private land-clearing debris landfills in the County permitted by MDE (see Table III-10, Land-clearing Debris Landfills). Quantities of land-clearing debris managed at each permitted land clearing debris landfill in calendar year 2006, as reported to MDE, are shown in Table III-10. Quantities of land-clearing debris materials managed, by tonnage, in calendar year 2006, as reported by each facility submitting a report to Calvert County, are shown in Table III-5.

While Calvert County does not directly manage land-clearing debris, the County encourages the recycling or reuse of land-clearing debris. The County will provide assistance to land-clearing debris generators to promote recycling and waste reduction in the form of market development guidance and other technical assistance.

Construction and demolition debris (rubble) includes: (1) land-clearing debris and (2) construction waste and demolition debris associated with the construction or demolition of buildings, roads, and other structures. Waste may include structural steel, concrete, bricks, lumber, plaster and plasterboard, sheetrock, insulation material, cement, corrugated cardboard, shingles, roofing materials, floor and wall tiles, asphalt, pipes and wire, and other items physically attached to the structure. Construction and demolition debris is permitted for disposal at Rubble Landfills in the State of Maryland. There are no permitted Rubble Landfills located in Calvert County, and, thus, rubble is disposed primarily out-of-County.

Based on discussions with home builders and private haulers in Calvert County, it is estimated that approximately 80 cubic yards of waste requiring disposal are generated during the construction of each new home in the County. Using a density conversion of 250 pounds per cubic yard, it is estimated that the average new home in Calvert County

¹ Information on solid waste and recycling at Pax River/Solomons Annex provided via email by Gary Costanzo, Environmental Protection Specialist, Pax River NAS, June 2007.

results in 10 tons of construction waste. Much of this material is recyclable.

According to contractors and haulers in the area, builders and collectors are increasingly seeking ways to reduce disposal costs by recycling corrugated cardboard, scrap metal and clean lumber waste from construction projects.

In 2006, the total number of building permits issued by the County was 1,923. This included new single-family homes, multi-family homes, residential accessory structures and new commercial or commercial accessory structures. Of that, 211 were for single-family detached units, 8 for single family attached units and 54 for multi-family units.¹ Based on this figure, and the average estimate of construction waste generation shown above, it is estimated that approximately 2,730 tons of new home construction waste were generated in Calvert County. Some of this waste was reused and recycled. Also, some inert building wastes may be buried on-site during construction operations. Some construction waste is handled at Calvert County Transfer Station. The substantial portion of this waste stream, however, is managed by private contractors at out-of-County disposal facilities.

Because the County infrastructure is relatively new, little demolition debris is estimated to be generated in the County. Debris generated from the razing of private structures must be disposed properly by the individuals or firms providing demolition services. Concrete and asphalt, primarily generated by road, bridge and paving-related construction or rebuilding, are easily collected in a source separated manner. Although they may include some soil material, they are typically generated separate from other debris materials. The Rubble Bee Recycling and Demolition, Inc. yard in Owings, Maryland, recycles clean concrete and asphalt brought to its facility. A dump fee of \$40 per truck or \$100 per demo trailer is charged for all material entering the facility. The concrete and asphalt are crushed into three sizes respectively: RC6; 2" and 3"-5" for concrete and fines; 2" and 3"-5" for asphalt. The material is then sold to contractors and road crews. Recovermat Mid-Atlantic, Inc., another processor of construction and demolition (C&D) debris, receives some mixed C&D waste from Calvert County at its Baltimore County facility. A dump fee of \$52.25 per ton is charged for all incoming material. The mixed C&D debris is ground to a fine aggregate, the metals are then removed, and the aggregate material is marketed as alternative daily cover for landfills. These waste quantities are included in Tables III-2(a) and III-2(b).

The County will continue to monitor the need for rubble disposal capacity in the future. If increases in County population result in significant increases in new construction in the County and existing facilities and out-of-County processors are inadequate, private or public disposal capacity for rubble may be developed. Any such facility would be required to meet all federal, State, and local permit requirements and would be required to conform to County zoning ordinances and land use planning considerations.

In addition, the County will provide technical assistance to local builders, contractors, and

¹ Source Joe Hawxhurst, Calvert County Department of Planning & Zoning, Building and Inspections Division, August 2007.

haulers to encourage recycling and reuse of construction waste and demolition debris. Projects to encourage reuse of home construction and remodeling wastes that have been adopted in other Maryland counties and other locations in the nation will continue to be evaluated and applied, as appropriate, for Calvert County.

6. Controlled Hazardous Substances

Controlled Hazardous Substances (CHS) are treated under Maryland regulations as synonymous with hazardous waste, with some exceptions for recyclable materials. In order to classify as a CHS, or hazardous waste, a material must be a statutory solid waste, be designated by MDE to be "controlled," and fulfill the criteria of a hazardous substance. A hazardous substance, as defined by the *Annotated Code*, is "any substance that conveys toxic, lethal, or other injurious effects; causes sublethal alterations to plant, animal, or aquatic life; may be injurious to human beings; persists in the environment; or any material identified as a hazardous substance by the EPA."¹

Maryland regulations divide hazardous wastes or CHS into several categories, including "Hazardous Waste from Specific Sources (State)," "Hazardous Waste from Non-Specific Sources," and "Discarded Commercial Chemical Products, Off Specification Species, Containers, and Spill Residues of These." A material that does not appear on any of these lists may still be regulated as hazardous waste or CHS if it is characteristically hazardous, namely, if it is ignitable, reactive, toxic, or corrosive.²

Aside from controlled hazardous and radioactive wastes produced at the Calvert Cliffs Nuclear Power Plant, which is the responsibility of Constellation Energy Group, and hazardous waste generated at the federal facilities in the County (see section III.A.4.e above), there is no significant generation of hazardous waste in the County (see Table III-11, Hazardous Waste Generation).

Household hazardous waste (HHW) is collected 4 times per year at collection events held at the Appeal Municipal Landfill and the Mt. Hope Convenience Center. County residents bring their HHW materials to be collected and disposed of by a certified hazardous waste contractor, PSC Environmental Services, under a contract with Maryland Environmental Service (MES) and taken away for further processing the same day of collection. In 2006, the County received 9.92 tons of HHW through its system, which were disposed of through MES via a contract with Clean Venture, Inc., who provided the collection and disposal of the HHW. The County has an ongoing program for the collection of mercury thermometers. Calvert County reported the highest amount of mercury recovered compared to the combined total of all other counties in the State.

7. Dead Animals

Dead animals do not pose a significant problem in Calvert County. Small animals (pets and wildlife) make up the greatest portion of this waste stream and are usually buried on

¹ Piper & Marbury, *Maryland Environmental Law Handbook*, September, 1991.

² Piper & Marbury, *Maryland Environmental Law Handbook*, September, 1991.

private property or collected and taken to the Appeal Municipal Landfill for burial. Larger animals, such as cows and horses, are normally picked up by commercial rendering companies, but may be buried by owners on their land. Large animals are only accepted for burial at the Appeal Municipal Landfill by special arrangement with the Solid Waste Division Chief or Landfill Operations Supervisor. The Calvert County Transfer Station does not accept dead animals, small or large, with the exception of deer, which are brought in only by Maryland State Highway or Calvert County Highway Maintenance crews.

The Tri-County Animal Shelter, located in Hughsville, Maryland (Charles County), serves Calvert, Charles, Prince George's, and St Mary's Counties. Dead animals delivered or euthanized at the shelter are cremated on site. The Tri-County Animal Shelter estimated they handled 105,000 lbs of dead animals for Charles, St. Mary's, Calvert and Prince George's Counties in 2006. The Tri-County Animal Shelter reports that approximately 10% of the total for 2006 was from Calvert County. Valley Proteins, Inc., a renderer with offices in Winchester, Virginia, and Baltimore, Maryland, stated they collected approximately 10,060 pounds of carcasses in 2006 from Calvert County local farms and other County residents.

The Calvert County Highway Maintenance Department does not maintain records on the collection and disposal of carcasses from the streets and highways. Most of these dead animals are buried along roadsides or delivered to the Appeal Municipal Landfill.

8. Bulky or Special Wastes

Large bulky items such as tables and sofas are not accepted at Convenience Centers in the County. The County provides a collection service two to three days each week to pick up these bulky household items on a "call-in basis." Each resident is allowed three items per pick-up, and the point-to-point route covers 36 residents per week. A collection list is maintained in the County Division of Solid Waste and names are placed on the list upon receipt of a telephone or written request.

For this operation, the County has been divided into two regions, north and south, with Maryland Route 231 and Maryland Route 402 as the dividing lines. Each region is collected on alternating weeks by the County Division of Solid Waste personnel. All items are disposed at the Calvert County Transfer Station or Appeal Municipal Landfill, or separated for recycling at the Appeal Convenience Center.

Bulky waste items containing refrigerants are separated at the Appeal Municipal Landfill for delivery to a scrap metal processor. The County has a qualified contractor remove the refrigerants prior to recycling the items. Other metal items that would otherwise have been delivered to the Calvert County Transfer Station for disposal at King George Landfill are also recovered at the Appeal Municipal Landfill site and sent to a scrap metal processor for recycling (see Tables III-1(a) and III-1(b) for the quantity of white goods/metal recycled from the County in 2006).

In addition, the County has an "e-Cycling" (electronics recycling) program. The

Convenience Centers at Appeal, Ball Road, Barstow, Huntingtown, Mt. Hope and Plum Point all have permanent electronic recycling containers. The program includes the acceptance of computers, monitors, printers, VCRs, DVD players, two way radios, stereos, scanners and televisions. Electronic devices will be expanded upon grant funding availability under the Statewide Electronics Recycling Program. The items are stored in 40 yard enclosed boxes. Federal Prison Industries, Inc. DBA UNICOR collects the items as needed and takes them away for processing. Lamps (Fluorescent, incandescent and other types of lamps) are collected and stored by the County at the Appeal Landfill until sufficient quantities for shipping are obtained to be recycled by AERC.COM LLC. Recycled electronic item quantities from this program are included in Tables III-1(a) and III-1(b).

The County also participates with the State of Maryland in a program to recover abandoned boats. When a State contractor picks up an abandoned boat in or near Calvert County, the County accepts the item at the Appeal Municipal Landfill. Tonnages of abandoned boats are not maintained separately from non-abandoned boats and trailers. The metal boats are crushed at the Landfill and included in the scrap metal recycling quantities. Wood and fiber glass boats are broken down and landfilled directly in the Appeal Municipal Landfill.

Scrap automobiles are not accepted at the Appeal Municipal Landfill. If a resident or business in the County needs to dispose of a scrap automobile, the County will provide technical assistance in the form of a list of available salvage yards.

9. Vehicle Tires

Used and scrap tires accumulate primarily at service stations and tire dealerships, although some tires are delivered directly to the Appeal Municipal Landfill. Tires can no longer be disposed of in the Appeal Municipal Landfill, per Section 9-228 of the Maryland Annotated Code. In addition, Section 9-228 requires the County to cooperate with State agencies, representatives of the tire industry, and local government representatives to put a tire recycling system in place. This system was required to be in place by January 1, 1994. Pursuant to this legislation, and the recommendations of the County Recycling Plan, Calvert County has implemented a tire recovery program at the Appeal Municipal Landfill.

Tires are not accepted at the County Convenience Centers; all tires, (used and scrap) must be delivered directly to the Appeal Municipal Landfill. All tires received at the Appeal Municipal Landfill are weighed and then placed in a designated container. When the container is full, the tires are picked up by the County's contractor, Emanuel Tire, Inc. The contractor has reported to the County that their handling process/final destination for scrap tires does include recycling or resource recovery. A fee of \$178 per ton (or approximately \$1.78 per tire) is charged for tires delivered to the Appeal Municipal Landfill. Tables III-1(a) and III-1(b) shows twelve percent of the total quantity of tires received at the Appeal Municipal Landfill, labeled as Tires (Cement Kilns) for Calvert County in 2006.

If tires shipped by the County were used in cement kilns, the County would earn a "recycling credit" from MDE for 12% of the quantities of tires handled through this

operation. The recycling credit percentage offered by MDE is based on a 12% metal content in the tires recovered during the cement-making process.

It is expected that most tires generated in the County will be taken to an approved recycling facility for recycling into crumb rubber. The County would then receive recycling credit for 100% of vehicle tire quantity from MDE because all the tire material would be recycled. The County will seek to maximize reuse and recycling of used vehicle tires through various available outlets throughout the period of this Plan.

10. Wastewater Treatment Plant Sewage Sludge

Currently, there are nine Waste Water Treatment Plants (WWTPs) in Calvert County. They include: (1) Chesapeake Beach; (2) Prince Frederick I [Sugar Notch]; (3) Prince Frederick II [Tobacco Ridge]; (4) Calvert Cliffs Nuclear Power Plant; (5) Calvert County Industrial Park; (6) Northern High School; (7) Randle Cliff Naval Research Facility, (8) Solomons Island, and (9) Marley Run. Information on each of these facilities was obtained from the Calvert County Division of Solid Waste and is discussed below (also see Table III-12, WWTP Sewage sludge Generation Estimates).

Sewage sludge wastes produced at these facilities are brought to Appeal Municipal Landfill as Dry Tons where they are unloaded and reloaded into sewage sludge trailers by Solid Waste Division staff and finally transported by Duffield Hauling, Inc. for disposal at the King George Landfill in Virginia. It is reported to be beneficially used as supplemental landfill cover. To better facilitate this transfer, the County is in the process of completing a capital project to construct a sewage sludge storage building providing an enclosed roofed structure for this activity.

a. Chesapeake Beach WWTP

The Chesapeake Beach WWTP land and equipment is owned by the Town of Chesapeake Beach. The capacity of the facility is jointly-owned by the Town of Chesapeake Beach (47 percent), the Town of North Beach (24 percent), and Calvert County (29 percent). The County operates the facility, which services all portions of the Towns of Chesapeake Beach and North Beach and a small portion of Anne Arundel County. In 2001, the Chesapeake Beach WWTP upgraded its capacity to 1.180 million gallons per day (MGD) and implemented tertiary treatment. The plant uses an oxidation ditch to perform biological nitrogen removal. Phosphorus removal is accomplished by chemical precipitation. The facility has stand-by methanol feed in case the denitrification process requires additional carbon.

Treated effluent from this facility is discharged into the Chesapeake Bay by means of a 12" gravity line at a point approximately 500 feet from the shore line in approximately six feet of water. The Chesapeake Beach WWTP had an actual flow of 0.850 MGD (CY 2006). In 2006, approximately 1,483 dry tons of sewage sludge was produced. These dry tons of sewage sludge are then brought from the Chesapeake Beach WWTP to the Appeal Municipal Landfill for transfer.

b. Prince Frederick WWTP I and II

The Prince Frederick WWTP I and II are owned and operated by Calvert County. These plants service the Prince Frederick Sanitary District and Dares Beach Sanitary District. The facilities currently have a 0.750 MGD capacity. The Prince Frederick WWTP I (located on Sugar Notch Road, west of MD 2/4) was constructed in April 1991. It is a slow rate (spray irrigation) land application facility located in Barstow. The aerated treatment of wastewater is reported to practically eliminate the regular production of sewage sludge, leading to lagoons only needing dredging approximately every 10 years. It is expected that dredging will not be required again until the year 2013. This plant has a 27 million-gallon storage pond. Prince Frederick WWTP I had an actual flow of 0.185 MGD (CY 2006).

The Prince Frederick WWTP II (located on Tobacco Ridge Road, 7 miles from the Prince Frederick WWTP I, east of MD 2/4) was constructed in 2003. It is a slow rate (spray irrigation) land application facility with an 18 million-gallon storage pond. Prince Frederick WWTP II had an actual flow of 0.254 MGD (CY 2006). Approximately 863 dry tons were transported to the Appeal Municipal Landfill for transfer in 2006.

c. Calvert Cliffs Nuclear Power Plant Sewage Treatment Plant

The sewage treatment plant for the Calvert Cliffs Nuclear Power Plant was built to treat domestic wastewater from the kitchens and restrooms on the Calvert Cliffs site. The plant is owned and maintained by the Constellation Energy Group and is operated by Maryland Environmental Service. It has a design capacity of 0.0665 MGD and produced approximately 176,800 wet gallons of sewage sludge in 2006, which were transported wet to the Solomons Island WWTP.

d. Calvert County Industrial Park WWTP

The Calvert County Industrial Park WWTP is owned and operated by the County and is located west of Prince Frederick. The capacity of the plant is 0.060 MGD, with an actual flow of 0.0155 MGD (CY 2006). Secondary treatment of the sewage is provided, prior to discharge to underground drainfields. Estimated sewage sludge production for 2006 was 28,000 wet gallons. When necessary, sewage sludge is transported to Solomons Island WWTP by scavenger haulers contracted by the County for disposal through the approved permit.

e. Northern High School

Northern High School WWTP is owned by the County Board of Education and operated by Calvert County. The Northern High School WWTP in Chaneyville was placed in operation to serve a population of 700. The design capacity of the plant is 0.040 MGD, with an actual flow of 0.017 MGD (CY 2006). The plant is restricted to the processing of sewage generated by the High School and provides secondary and tertiary treatment.

The estimated sewage sludge production for 2006 was 8,000 wet gallons. Sewage

sludge is transported to the Solomons Island WWTP by scavenger haulers contracted by the County for disposal through the approved permit.

f. Randle Cliff WWTP

The Randle Cliff WWTP, which is owned by the U.S. Government and operated by the Department of the Navy, has a design flow of 0.075 MGD and population loading of approximately 200. The system provides secondary sewage treatment by means of commutation of raw sewage, primary settling, rotor distribution of settled effluent on a trickling filter bed, and unheated sewage sludge digestion with provisions for open sewage sludge drying beds. Ultra-Violet disinfection is used before discharge of treated effluent into the Chesapeake Bay. For 2006, 0.41 dry tons of sewage sludge from the Randle Cliff WWTP was taken to the Appeal Municipal Landfill.¹

g. Solomons Island WWTP

Solomons Island WWTP services Solomons Island Sanitary District, including Solomons Island Town Center and the districts around Back Creek (tributaries to Solomons Harbor).

The Solomons Island WWTP currently has 1.052 MGD of capacity, with an actual flow of 0.335 MGD (CY 2006). Substantially all septage collected in the County by scavengers (e.g., septic tank pumpers) is taken to the County septage receiving facility located at the Solomons Island WWTP. Currently, approximately 2,092 dry tons per year of sewage sludge is transported by the County from the Solomons Island WWTP to the Appeal Municipal Landfill for transfer, where it is loaded into a sewage sludge trailer by Solid Waste Division staff for final transportation by Duffield Hauling, Inc. and disposal at the King George Landfill in Virginia. It is reported to be beneficially used as supplemental landfill cover.

h. Marley Run WWTP

The Marley Run WWTP is operated by the County and currently has 0.015 MGD of capacity, with an actual flow of 0.011 MGD (CY 2006). This plant was constructed in 1998. The service area includes the Marley Run subdivision in Huntingtown, Maryland. This plant is permitted to discharge secondary treated sewage via subsurface drip irrigation.

Marley Run WWTP is reported to have produced zero (0) tons or gallons of sewage sludge for disposal in 2006. When necessary, sewage sludge is transported to the Solomons Island WWTP by scavenger haulers contracted by the County for disposal through the approved permit.

¹ Information obtained via phone conversation with Michelle Hepler, US Navy, Randle Cliff, August 2007

11. Septage

According to COMAR definitions, the term septage means “liquid and solid material pumped or removed from chemical toilets, septic tanks, seepage pits, privies, cesspools, or holding tanks when the system is cleaned and maintained.” Currently, the majority of County residents are not served by community sewage systems. Most residents utilize on-site septic systems or tanks. These tanks are serviced by scavengers that periodically pump-out the solid and liquid wastes.

The County Health Department issues permits for scavenger service under provisions of COMAR 26.04.02. The scavengers are permitted through the County and must dispose of septage at the Solomons Island septage off-loading facility located next to the Solomons Island WWTP near the Appeal Municipal Landfill. This facility is part of the Solomons Island WWTP upgrade that was completed in 1995. Only in special cases can scavengers land apply, and they must have an MDE-approved disposal site arranged before a permit can be obtained. In approving a disposal site, MDE considers the crop on the land, slope, soil conditions, neighborhood, and adjacent property owners. In 2006, 9,732,643 gallons of septage were processed at the County septage facility at Solomons Island WWTP.

Scavenger lists can be obtained from the Calvert County Health Department. A survey of seventeen (17) scavengers operating in Calvert County was conducted to obtain information on: (1) gallons of septage collected; (2) the number of households serviced; and (3) the method of disposal. The majority of the scavengers surveyed disposed of their septage at the septage off-loading facility at the Solomons Island WWTP. Washington Suburban Sanitary Commission (WSSC) plants in Prince George’s County and facilities in St. Mary’s County were the other locations where they would sometimes dispose of their septage (See Table III-13).

Marinas

Marinas represent a thriving segment of the County's recreational facility network. State law requires marinas with 50 or more slips, as well as new and expanding marinas with more than ten slips, to provide pump-out service for vessel holding tanks and portable toilets. Additionally, marinas are often required to obtain a pump-out facility as a condition of a wetland's permit. The Maryland Department of Natural Resources administers a grant program that provides up to \$15,000 in reimbursement to marinas for the purchase and installation of pump-out facilities. Funding comes from the federal Clean Vessel Act (75%) and the State Waterway Improvement Fund (25%). Since the program's inception in 1989, several marinas in the State (including ones in Calvert County) have received DNR grant monies for this purpose. Exhibit III-2 presents a list of marinas in the County that provide pump-out services.¹ Septage from pump-out stations goes directly into the County sewage system or is collected by a private hauler.

¹ Personal communication with Kristen B. Fleming, Environmental Specialist, Maryland Department of Natural Resources - Watershed Services Unit. August 2007

12. Other Wastes

a. Asbestos

The Appeal Municipal Landfill will accept asbestos in non-friable form (e.g., asbestos shingles). The material must be in "double-containers." Customers must make prior arrangements with Landfill personnel in advance of bringing non-friable asbestos to the Appeal Municipal Landfill. The quantities of the non-friable asbestos are included in the C&D waste quantities. The Appeal Municipal Landfill does not accept friable asbestos.

b. Medical/Infectious Waste

The U.S. EPA, the Centers for Disease Control (CDC), the Occupational Safety and Health Administration (OSHA), and the Joint Commission on Accreditation of Health Care Organizations (JCAHO) present differing positions with regard to medical waste disposal. The EPA, which has regulatory authority over infectious waste, has adopted guidelines regarding tracking and disposal of medical waste. Although CDC has no regulatory authority, it is regarded as an authoritative source of information for the health care community.

The two State agencies that regulate the management of medical wastes are MDE and the Department of Health and Mental Hygiene (DHMH). Both of these agencies use the term "special medical wastes." Special medical wastes are considered to be Controlled Hazardous Substances (CHS) according to COMAR 26.13.11.01C, 26.13.11.02B(10). Whereas MDE regulations pertain to the identification, packaging, manifesting, and transporting of special medical wastes, the DHMH regulations outline acceptable methods for handling these wastes and rendering them non-infectious. Special medical wastes are considered infectious until they are properly treated. State law prohibits landfill disposal of infectious waste; however, properly treated medical wastes may be landfilled.

Special medical wastes include the following materials:

- anatomical material (both human and animal),
- blood (both human and animal),
- blood-soiled articles,
- contaminated material,
- microbiological laboratory wastes, or
- sharps.

A special medical waste generator is defined by the regulations to be "any person, business, government entity or group of people whose act or process produces a special medical waste" according to COMAR 26.13.11.02B (5) and (7). Generators that produce less than 50 pounds of special medical wastes per month, termed "small volume generators," are exempt from MDE's manifest and transport requirements but must meet identification, packaging, and treatment regulations. Generators of more than 50 pounds per month must meet all regulations governing the management and handling of special medical wastes.

A survey of doctor and dentist offices in Calvert County was conducted in 2006 to obtain information on: (1) estimated quantity of medical waste disposed, and (2) hauler. Four of the eleven doctors contacted contract with Stericycle, Inc. for medical waste hauling and disposal. Other haulers at the time included Browning Ferris Industries (BFI) [Allied Waste Industries, Inc.] and the Calvert County Memorial Hospital, which, in turn, currently contracts to Stericycle for collection of the medical waste. Medical waste handling methods used by the doctors contacted are shown in Table III-14.

In 2006, 52.61 tons of medical waste was reported to be generated by the Calvert Memorial Hospital¹, down 12% from the last few years. Most of the medical waste was, and continues to be, shipped out-of-State. Medical wastes remaining in the State are thermally processed at one of the two incinerators in Baltimore. Stericycle, a major regulated medical waste collector serving Calvert County, reported collecting 62.77 tons of regulated medical waste (RMW) for the calendar year 2006.² The RMW is initially treated at either incinerators or autoclaves. Once the RMW is treated by incineration or autoclave, it is no longer RMW and is disposed of as regular solid waste in various approved landfills. The generators of medical/infectious waste in the County continue to be primarily local doctors, dentists, Calvert Memorial Hospital, laboratories and veterinary clinics.

c. Agricultural Wastes

Approximately 83 percent, or 107,000 acres, of the total land area of the County is zoned as either Farm and Forest District or Rural Community District, supporting agricultural uses. The primary types of crops raised in the County include corn and soybeans. Tobacco, formerly a primary crop, has been decreasing in production as the County moves away from tobacco to other crops. Farm animals in the County include an estimated 1,570 cattle, 869 chickens, and 132 sheep.³

Agricultural wastes are not a significant problem in the County because agricultural wastes (manure, corn cobs, tobacco stalks, etc.) are generally recycled on farmland, and there are no large feedlots in the County.

d. Recreational Facility Waste

Calvert Cliffs State Park in Calvert County has continued to be "Trash Free" since 1993. Rather than provide waste receptacles throughout the park, visitors are provided with trash bags upon entering the recreational facility. They are requested to take their waste home with them, and they are encouraged to recycle appropriate materials. The program has

¹ Personal communication with Robert Barone, Director of Environmental Services, Calvert Memorial Hospital, August 2007.

² Personal communication with Kevin Donovan, Stericycle, May 2007.

³ Data provided by the USDA, National Agricultural Statistics Service 2002, most recent data available.

been successful statewide, allowing park staff to perform other functions at the facilities.¹ Waste collection from County and District parks is provided by the County Division of Solid Waste. These waste quantities are included in the Commercial, Industrial, Institutional waste quantities for 2006 in Table III-3.

All marinas and beaches in Calvert County are private and contract with a waste hauler or self-haul wastes to the Calvert County Transfer Station. These waste streams are included in the Commercial, Industrial, Institutional waste quantities in Table III-3.

e. Used Motor Oil, Antifreeze, and Oil Filters

Effective July 1, 1978, Maryland State Law prohibited disposal of used oil by discharge, dump or deposit into sewers, drainage systems, surface or ground waters. Provision has been made for collection of used motor oil at all of the County solid waste Convenience Centers. Each of the County Convenience Centers is equipped to handle the drop-off collection of waste oil, oil filter collection, and antifreeze. Residents can dispose of used motor oil, oil filters and antifreeze in specialized collection tanks, which, in turn, are collected by a waste oil/antifreeze recycler.

For the year ending December 31, 2006, 40.28 tons of antifreeze and approximately 616.97 tons of used motor oil were collected from the used oil collection tanks at the County Convenience Centers. Given that figure, the County is estimated to be recovering a substantial percent of the used oil estimated to be generated by "do-it-yourselfers." However, used motor oil also may be taken to service stations or garages, or used by "do-it-yourselfers" in appropriate oil-burning appliances designed for such used oil, or disposed in another manner, and these quantities are unknown.

The County will continue to promote proper disposal methods for used motor oil and antifreeze. If new Convenience Centers are developed, used oil tanks would be sited at each of these locations.

f. Petroleum-Contaminated Soil

The State of Maryland regulates the disposal of petroleum-contaminated soil. Petroleum-contaminated soil can be disposed by landfilling, incineration, mixing with asphaltic materials for paving, or by other approved methods. If disposed by landfilling:

- Disposal must take place in a lined landfill permitted to accept petroleum-contaminated soil;
- The landfill operator must decide to accept the material to be disposed; and
- The soils must not exhibit free liquid as per COMAR 26.04.07.03B.(8).

¹ Personal communications with Patrick Bright, Calvert Cliffs State Park, Calvert County, Maryland, June 2006.

Several landfills in Maryland will accept petroleum-contaminated soil, essentially following the guidelines stated above. In Calvert County, the Appeal Municipal Landfill is permitted to accept petroleum-contaminated soil. If petroleum-contaminated soil is generated in the County, the generator is referred to a private licensed transporter or the Maryland Department of the Environment. In the event of an oil spill, Calvert County would contract with a hazardous materials handler who would bill the County for clean-up and disposal services (including petroleum-contaminated soil). The County would subsequently bill the party responsible for the spill. There were no major spills in the County for 2006 however, to date, petroleum-contaminated soil has been received at the Appeal Municipal Landfill for final disposal.

g. Special Event/Other waste

It is estimated that the Calvert County Transfer Station received approximately 165 tons of special project waste or park/special event waste in 2006. Special Project wastes are generated through the "Christmas in April" program, where volunteers in the County repair low income and senior's homes and the County donates roll-off boxes for the repair waste. In addition, the County waives the tip fee for this waste brought to the Calvert County Transfer Station. In 2006, 15.36 tons of Special Project wastes were generated. Christmas trees represent Special Event wastes and are brought to all Compactor Sites and Appeal Municipal Landfill at no charge between December 26th and January 31st. The Christmas trees are ground into mulch and made available to County residents at no charge. In 2006, the County estimated 150 tons of Christmas Tree Special Event wastes were handled.

13. Types and Quantities of Materials to be Separated or Recycled

The County has adopted a Recycling Plan that outlines a strategy for reaching the recycling goal established for Calvert County in the Maryland Recycling Act. The County has consistently attempted to exceed the minimum goal of 15% diversion set forth in the Act for counties under 150,000 population. As part of the implementation of this Recycling Plan, the County's recycling program currently includes the following components:

- a. Recycling drop-off centers for collecting residential recyclables at each of the existing Convenience Centers;
- b. Privately contracted curbside recycling programs in the Towns of North Beach and Chesapeake Beach as well as certain County subdivisions;
- c. Recovery for recycling of white goods and other scrap metal items that would otherwise have been disposed in the Appeal Municipal Landfill or Calvert County Transfer Station;
- d. Collection of mixed office paper from Calvert County Government offices and selected business generators in the County;
- e. Recovery of cardboard from commercial generators (including private sector

recovery efforts);

- f. Collection of mixed paper from school administrative and classroom facilities;
- g. Diversion of scrap tires from the wastes stream;
- h. Diversion and processing of yard waste, brush, and wood waste into mulch and compost that would otherwise have been disposed in the Appeal Municipal Landfill or Calvert County Transfer Station;
- i. Recovery of electronics from County residents and local businesses;
- j. Recovery of Household Hazardous Waste through the County's HHW collection events held at the Appeal Municipal Landfill and Mt. Hope Convenience Center;
- k. Recovery of lead acid batteries for recycling;
- l. Recovery of used clothing and textiles; and
- m. Recovery of other non-MRA recyclables such as waste motor oil, antifreeze, concrete, asphalt, C&D debris, scrap metal, and scrap automobile parts.
- n. Recovery of Fluorescent and compact Fluorescent Lamps containing mercury.

The County operates recycling drop-off locations at the existing Convenience Centers: Ball Road, Barstow, Huntingtown, Lusby, Mt. Hope, and Plum Point. There is also a recycling drop-off center at the Appeal Municipal Landfill. Each site is currently equipped with roll-off containers for: a) newspaper, magazines, hardback and paperback books, mixed paper, and cardboard; b) metal and white goods; and c) mixed (commingled) recyclables including glass bottles and jars (clear, green, and brown), metal cans (aluminum and tin/steel), and all food and beverage plastic containers (#1-7, bottles, jars, and tubs). In addition, cell phones, computer equipment (e-Cycling), motor oil, oil filters, anti-freeze, auto batteries, and textiles are also collected at the Convenience Center sites.

The Town of North Beach contracts its own curbside solid waste and recycling collection services with Southern Maryland Recycling, Inc., a licensed hauler operating in the County. Residents of the Town of Chesapeake Beach are also provided with curbside collection of residential waste and recyclables through a contract that the Town administers with Calvert Trash, a division of Republic Waste Services, Inc., a local private hauler.

The County recognizes that many County residents and visitors generate recyclable containers at various marina facilities. The County had previously supplied "Igloo" recycling containers for the recovery of glass bottles and jars and metal cans to private marinas and County boat ramps. Due to contamination issues, most public containers had to be removed, however some of the containers at private marinas were retained. These few remaining "Igloo" containers at private marinas and at the County's Breezy Point

Beach & Campground are reportedly collected by County staff, and the recyclables from these sites are taken to a County Convenience Center sites to be mixed with other residentially generated recyclable materials.

The County collects corrugated cardboard and mixed office paper from County government buildings and selected business generators in the County. These materials are hauled by County staff to a privately-operated mixed paper processing facility in Cheverly, Maryland (World Recycling Co). County schools have capabilities within their buildings for the collection of cardboard and mixed paper. The school system is active in the collection and recycling of these materials under a contract with a private hauler.

Used tires are diverted from the waste stream. They are received at the Appeal Municipal Landfill where one vendor is currently under contract for tire removal: Emanuel Tire Co.

In order to conserve landfill space and meet its recycling goals, the County requires residents, businesses, and commercial haulers to deliver all loads of yard waste to a Yard Waste Processing area at the Appeal Municipal Landfill. Given the rural nature of the County, most yard waste is disposed of on site and/or processed by homeowners.

Tables III-1(a), III-1(b), III-2(a), III-2(b) and III-3 present a summary of reported recycling quantities for 2006.

Recyclables that are transported directly to the World Recycling Company MRF by the County include:

- Commingled containers including: glass bottles and jars (clear, green, and brown), metal cans, and all plastic food and beverage containers #1-7).
- Newspaper, magazines, hardback and paperback books, mixed paper, and cardboard.

The County contracts with several vendors for the transport of recyclables to markets and processing facilities including:

- Propane tanks are collected at the other six Convenience Centers are transferred by the Solid Waste staff and collected at the Appeal Municipal Landfill.
- Metals are picked up by Yowell Equipment and Demolition, Inc. from the Appeal Municipal Landfill or transported by the County directly to a recycling market. Metal collected at the other six Convenience Centers are transferred by the Solid Waste staff and collected at the Appeal Municipal Landfill.
- Textiles are picked up by Mid Atlantic Clothing (M-A-C) Textiles from each of the Convenience Centers in the County.
- Lead acid batteries are currently collected and stored at the Appeal Convenience Center. Lead acid batteries that are collected at the other six Convenience Centers

are transferred by the Solid Waste staff and collected at the Appeal Municipal Landfill.

- Oil, antifreeze, and oil filters are picked up under an Interlocal Government Agreement established with Maryland Environmental Service (MES) from each of the Convenience Centers in the County.
- Fluorescent and Compact Fluorescent Lamps, Incandescent Lamps, Metal-Oxide, Halogen and Other Lamps are collected from residents at Convenience Centers and staff of County government buildings for transport to Appeal Landfill. These lamps are hauled by County staff to the Appeal Landfill where they are sorted and placed in shipping containers for recycling under a contract with AERC.COM, a private recycling company.

Many commercial establishments also recycle paper and cardboard products and self-haul to processor or markets. One of the larger establishments is Giant Foods, which produces 6 to 8 bales of corrugated cardboard per day. These bales are then loaded onto trailers and transported to the Giant Foods warehouse in Jessup, Maryland, to be sold directly to recycling processors.

B. BASIS FOR WASTE RECYCLING RATE

1. Diversion Rate for MRA Recyclables

Based on the data determined by the County for calendar year 2006, the quantities of municipal solid waste and recyclables reported in Calvert County are as follows:

Quantity of MSW disposed:	66,823.00	Tons
Quantity of Non-MRA disposed:	46,691.15	tons
Quantity of MRA recyclables:	66,429.15	Tons
Quantity of Non-MRA recyclables:	53,571.79	Tons
Total Waste and Recyclables:	233,515.09	tons of material generated

Recycling rate percentage = $(66,429.15 \div 233,515.09) * 100 = 28.45\%$ for calendar year 2006. Therefore, the reported percent diversion of the waste stream for reuse/recycling of MRA materials for 2006 is 28.45% or 66,429.15 tons of waste. See Table III-1(b).

Upon further research into reported tonnage quantities, it was revealed that a portion of the materials reportedly generated in Calvert County actually originated outside the County and were only processed in Calvert County. Excluding the quantities of these materials identified reduces the County recycling rate to approximately 8.07% or 19,756.44 tons of recyclables. More detail is provided in Chapter 4, Section D1.

2. Statement that the Recycling Goal Stated in Chapter 1 Has Been Achieved

Based on the County's reported municipal solid waste stream for disposal and quantities of MRA recyclables recovered for reuse or recycling in 2006, the County has not achieved its recycling goal in 2006. In addition to the MRA recyclables, in 2006, 53,571.79 tons of non-MRA recyclables were also reported to be recovered for recycling or reuse in the County. See Table III-2(b).

C. IMPORT/EXPORT WASTE QUANTITIES

In order to ensure sufficient landfill capacity to meet the long-term solid waste disposal needs of Calvert County residents and businesses, the Appeal Municipal Landfill only accepts waste material generated as overflow from the Calvert County Transfer Station at the close of business or from special projects/events as designated by the County.

The County entered into a 25-year contract with Waste Management, Inc. for hauling of MSW and C&D wastes thus, substantially all waste generated in the County and collected by the County and private haulers serving Calvert County is brought to the Calvert County Transfer Station for transport to, and ultimate disposal at, King George Landfill in Virginia, owned and operated by Waste Management, Inc. In 2006, 4,592 dry tons of sewage sludge from Calvert County was unloaded at Appeal Municipal Landfill and reloaded into transfer trailers for transport to King George Landfill in Virginia. This material is not handled at Calvert County Transfer Station by the private contract operator, Garnet of Maryland, Inc. Almost 100,000 tons of out-of-County waste, about half from St. Mary's County, is brought annually by private haulers to the Calvert County Transfer Station. In 2006, 96,002 tons from out-of-County sources were reported to be received at the Calvert County Transfer Station and transported to King George Landfill for disposal.

The County operates the scales at the Appeal Municipal Landfill and will continue to track waste receipt records and review disposal data from other facilities in the County to determine the impact of imported and exported waste streams on the County's solid waste system. During 2006, the County raised its tipping fee from \$52 per ton and created a differential fee structure. The County's tipping fees for disposal at the Appeal Municipal Landfill, which includes transfer station and disposal services, are now \$65 per ton of municipal solid waste for all out-of-County and commercial customers; \$58.50 for residential chargeable loads*, and \$178 per ton for tires.

*The Appeal Municipal Landfill charges residents for the following items brought in for processing and/or disposal:

- Yard Debris: includes leaves, branches, grass clippings, trees (no stumps allowed)
- Construction and Demolition Debris: includes anything generated during the construction, renovation, and demolition of a home or other building including, but not limited to building components (doors, windows, and cabinets), plumbing

fixtures (sinks, tubs, and toilets), drywall, gypsum, wood, glass, carpet, siding, shutters, shingles, fencing, sheds, plastics

- Mixed loads: includes any of the above items mixed with household trash

Recyclables exported by the County for processing include: paper (newspaper, magazines, hardcover and paperback books, mixed paper, and cardboard) and commingled containers (glass bottles and jars, metal cans, and all food and beverage plastic containers #1-7). They are transported by the County to the World Recycling Co. MRF in adjacent Prince George's County, Maryland.

Several vendors are also contracted by the County for the collection and transportation of recyclables to markets. These vendors include: Yowell Equipment and Demolition, Inc., Mid Atlantic Clothing, and MES. Recyclables such as textiles, oil, oil filters, and antifreeze are collected by these vendors from each of the Convenience Centers in the County. Propane tanks, scrap metals/white goods and lead acid batteries are collected from the Appeal Municipal Landfill only.

D. EXISTING SOLID WASTE COLLECTION AND RECYCLING SYSTEMS

The County, at present, does not provide curbside collection of solid waste or recyclables; however, the County operates seven Convenience Centers with the Division of Solid Waste staff and contracts for the transport and marketing/processing of certain of the recyclables received at the Convenience Centers. Recyclables handled by the County include: paper (newspaper, magazines, paperback and hardback books, mixed paper, and cardboard) and commingled containers (glass bottles and jars, metal cans, and all food and beverage plastic containers #1-7). Paper and commingled containers are transported by the County to the World Recycling Co. MRF.

Residential waste received at the Convenience Centers is hauled to the Calvert County Transfer Station by County Division of Solid Waste staff where it is unloaded by County staff and loaded by Waste Management, Inc. staff into transfer trailers and hauled by Waste Management, Inc. to their privately-owned King George Landfill in Virginia for disposal. A network of private haulers and recyclers serve the solid waste and recycling collection needs of residents, businesses, and institutions beyond the services provided by the Convenience Centers. Residents who wish to have their trash and recyclables collected by the private haulers can do so by subscription service.

The Town of North Beach contracts directly with Southern Maryland Recycling, Inc. for residential curbside solid waste and recycling collection. Solid waste is collected twice a week and recyclables are collected every other week. Curbside recycling services include: tin and aluminum cans; plastic and glass bottles and jars; and newsprint. Bulky item (trash) pick up, also performed by the contractor, is scheduled for every other week, opposite the recycling week. Commingled recyclable containers and recyclable paper are collected and transported by the Contractor to World Recycling Co. MRF.

The municipal trash is taken to the Calvert County Transfer Station for transport and disposal; the Town's contractor is charged the standard tipping fee by the County. Commercial trash in the Town of North Beach is collected by commercial haulers as this service is not provided by the Town.

Residents of the Town of Chesapeake Beach are also provided with curbside collection of residential waste through a contract that the Town administers with Calvert Trash, a division of Republic Waste Services, Inc. Wastes are collected once per week with service increasing to twice per week during the summer months (June through October).¹ This waste is delivered to the Calvert County Transfer Station. Calvert Trash also holds the Town's contract for residential curbside recyclables collection including: glass bottles and jars, metal cans, plastic bottles, and newspapers.² Commercial businesses in the Town have the option to contract out their collection of waste and recyclables to any of a number of local private haulers servicing the County or self-haul to the Calvert County Transfer Station. The County anticipates continuing a cooperative relationship with private sector collection entities operating in Calvert County. As noted earlier, data regarding the major collectors serving the County are included in Exhibit III-1.

E. EXISTING SOLID WASTE ACCEPTANCE FACILITIES

Calvert County has, within its jurisdiction, public and private Solid Waste Acceptance Facilities. All permitted facilities are shown in Figure III-2.

1. Public Facilities

a. Sanitary Landfills

Two Sanitary Landfills exist in Calvert County: Barstow Municipal Landfill, which has ceased accepting waste and has been closed and capped, and the Appeal Municipal Landfill which is open but typically receives less than 1,000 tons per year. There are no other Sanitary Landfills being planned at this time.

(1) Barstow Municipal Landfill

The Barstow Municipal Landfill is located on a 55-acre site off Stafford Road in Barstow (approximate Maryland Grid Coordinates (MGC) N257,000 E909,000). The Landfill ceased accepting solid waste on March 6, 1993, and contains approximately 2.9 million cubic yards of waste and cover material. The Barstow Municipal Landfill has been capped and is monitored and maintained by the County. The County operates a Convenience Center adjacent to the closed landfill for residential waste and recyclables.

(2) Appeal Municipal Landfill

The Appeal Municipal Landfill houses the County's Appeal Municipal Landfill, privately-

¹ From Town of Chesapeake Beach website, www.chesapeake-beach.md.us.

² Personal communication with Town of Chesapeake Beach Town Hall, August 2007.

owned and privately-operated Calvert County Transfer Station, a Convenience Center, an HHW facility, and a mulching operation. The County operates and maintains a scale house/administration building at the Facility, weighing all refuse, including that directed to Calvert County Transfer Station. The Appeal Municipal Landfill is located west of Maryland Route 2-4, on Sweetwater Drive, in Lusby, Maryland (MGC N201,000 E960,000). The state-of-the-art lined landfill commenced permitted operation on March 8, 1993, with a design capacity of approximately 1.5 million tons and remaining service life of 15 years. The Landfill currently accepts a very limited amount of municipal solid waste, which includes diverted waste on days the Calvert County Transfer Station requires downtime for maintenance and for certain other municipal waste that can't be handled at the Transfer Station such as petroleum-contaminated soils and asbestos wastes.

In 2006, 568 tons of municipal solid waste and waste soil was landfilled at the Appeal Municipal Landfill, and at the end of 2006 it has estimated remaining airspace of approximately 1.9 million cubic yards. Because the County has a long-term transfer and disposal agreement with Waste Management, Inc., with over 14 years remaining, based on a 5-year renewal at the end of the base term, the County does not anticipate a need to develop and expand into the second cell available at Appeal Municipal Landfill within that time frame, which extends beyond the 10-year planning period of this Plan.

b. Convenience Centers

Currently, seven (7) Convenience Centers are available to the public in Calvert County for residential waste disposal and recyclables drop-off. The Convenience Centers are located in:

- Appeal Municipal Landfill (MGC N201,000 E960,000);
- Ball Road (MGC N230,500 E937,000);
- Barstow Municipal Landfill (MGC N257,000 E909,000);
- Huntingtown (MGC N279,500 E904,500);
- Lusby (MGC N197,500 E961,500);
- Mt. Hope (MGC N306,500 E915,500) and;
- Plum Point (MGC N281,500 E924,000).

All sites listed above are equipped with stationary compactors, except the Appeal Municipal Landfill, which has 8 roll-off boxes for residential waste. Enclosed roll-off boxes have been sited for the recovery of residential recyclables delivered by County residents to the Convenience Centers. Used motor oil, oil filters and antifreeze also are collected at the Convenience Centers for recycling. A facility equipped to handle household hazardous waste collection has been added at the Appeal Municipal Landfill Convenience Center.

The Convenience Centers are owned by the County for residential drop-off. Each facility is staffed by at least one attendant and has a small attendant shelter. The facilities need not be permitted.

c. Major Mulching Sites

The County has a yard waste and wood waste processing area within the Appeal Municipal Landfill. The County contracts for a grinder for mulching services when the quantities of brush and branches are sufficient. Mulching can also be done at the closed Barstow Municipal Landfill; however, this seldom occurs except for special situations or emergencies, like natural disasters.

2. Private Facilities

a. Transfer Station

Garnet of Maryland, Inc. owns and operates a municipal solid waste transfer station at the Appeal Municipal Landfill site under a long-term contract executed with the County on January 22, 1997. This 20-year contract has a 5-year extension option, which will take the contract up through January 22, 2022. The County owns the site and leases it to Garnet of Maryland, Inc. The Transfer Station has a permitted capacity of 750 tons per day of non-hazardous municipal solid waste. Waste received at the transfer station is hauled out-of-County to the Waste Management-owned and operated King George Landfill in King George County, Virginia. This transfer station provides services to Calvert County, St. Mary's County, and certain other Southern Maryland communities. In 2006, over 176,000 tons of waste was transported through this facility. Maryland Grid Coordinates are MGC N201,000 E960,000.

b. Land-clearing Debris Landfills

In addition to the currently operating Appeal Municipal Landfill, the County has, within its borders, four land-clearing debris landfills, as noted in Section A.5. Quantities of land-clearing debris managed at each permitted facility in calendar year 2006, as reported to MDE, are shown in Table III-10. All four of these landfills are privately owned and operated. There are no dedicated rubble landfills located in the County.

(1) Howlin Land Clearing Debris Landfill ¹

The Howlin Land Clearing Debris Landfill is located approximately 900 feet east of Solomons Island Road (MD Routes 2-4) on the east side of Nursery Road (MGC N200,000 E961,000) at 8580 Nursery Road, Lusby. Land-clearing debris, per COMAR 26.04.07.11B, generated by the owner/operator is accepted at the site. Per the 2006 MDE Solid Waste Tonnage Report submitted by Howlin, all wastes received that year originated

¹ Owner/operator of the facility: Howlin Construction Company, Inc.

in Calvert County¹ and were landfilled.

(2) Hill Land Clearing Debris Landfill²

The Hill Land Clearing Debris Landfill is located immediately north of Dalrymple Road about 1/8 mile east of the intersection at Solomons Island Road North (MD Route 2), in Sunderland (MGC N304,000 E914,500). The landfill is permitted to accept material specified in COMAR 26.04.07.11B, Acceptable Wastes, generated in Calvert County only by the owner/operator. It has been reported that trees are processed into firewood.

(3) M.T. Parran Land Clearing Debris Landfill³

The M.T. Parran Land Clearing Debris Landfill is located immediately east of MD Route 765 approximately one mile south of Saint Leonard corporate limit (MGC N226,500 E945,000). Only land-clearing debris generated in the County by the owner/operator will be disposed, as specified in COMAR 26.04.07.11B. Trees are reportedly processed into firewood.

The owner of the Hill and Parran facilities, Morgan E. Russell, has also reportedly purchased a mobile tub grinder to prepare and market mulch from its land-clearing projects. This mulching company is known as Calvert Environmental Recycling, Inc. and operates the tub grinder, accepting material for processing from other contractors and the County.

(4) Hance Land Clearing Debris Landfill (a.k.a T.L.H. Landfill)⁴

The Hance Land Clearing Debris Landfill is located approximately 1,000 feet west of Solomons Island Road (MD Routes 2-4) on the north side of Sixes Road (MD Route 506) in Prince Frederick (MGC N246,000 E923,000). Land-clearing debris, per COMAR 26.04.07.11B, generated by the owner/operator is accepted at the site. In addition, consideration is apparently given to acceptance of debris from other selected contractors, some of which may generate debris outside the County. According to the 2006 MDE report submitted by T.L.H. Landfill, no wastes were landfilled and all material accepted during the year was recycled.

(5) Illegal (Unpermitted) Land-clearing Debris Landfills (Dumps)

In addition to land-clearing debris landfills for which permits have been applied or that currently are permitted, a number of unpermitted dumps have operated in the past and/or currently operate in the County. The County monitors such activities and investigates these sites and/or reports them to MDE and takes other appropriate action

¹ Phone conversations with Joe Catterton, Project Manager, Howlin Land Clearing Debris Landfill, November 2007.

² Owner/operator of the facility: Morgan E. Russell, Inc.

³ Owner/operator of the facility: Thomas L. Hance, Inc.

⁴ Owner/operator of the facility: Thomas L. Hance, Inc.

as warranted.

c. Natural Wood Waste Recycling Facility

A Natural Wood Waste Recycling Facility (NWWRF) accepts natural wood waste such as stumps and tree limbs. Natural wood waste is usually generated when land is cleared for construction purposes. MDE views natural wood waste as vegetation, in its natural state, that has been discarded or designated for disposal. A NWWRF produces a variety of products from this waste, including mulch and compost, and sells it to consumers. These facilities are valued because they take a waste product that would otherwise go to a landfill and make it into something useful.¹ Quality Built Homes, Inc. operates a Natural Wood Waste Recycling Facility at 7185 Sawmill Road in Lusby (MGC N955,000, E222,000). Tonnages of material produced by processing and product removed from the facility in 2006, including residual wastes, are shown in Exhibit III-3. Discussions with the facility indicate that, depending on the projects undertaken, around half of the materials handled by this facility in 2006 were generated within Calvert County and the remainder, somewhat less than half, originated from outside the County.²

d. Major Mulching Sites

There are four privately owned and operated mulching facilities in Calvert County: (1) Quality Built Homes, Inc. Natural Wood Waste Recycling Facility (Sawmill Road) in Lusby; (2) Calvert Environmental Recycling Company at Morgan E. Russell's M.T. Parran Land Clearing Debris Landfill (MD 765) in St. Leonard; (3) the Hance Land Clearing Debris Landfill (Sixes Road) in Prince Frederick; and (4) A. H. Hatcher, Inc. Wood Recycling³ (St. Leonard Road/MD 765) in St. Leonard.

e. Processing Facility

Calvert Trash Systems, Inc., a Republic Waste Services, Inc. company, operates the Southern Maryland Processing Facility, owned by Wayson Land Holdings, LP and located at 7659 Binnacle Lane in Owings, Maryland (MGC N310,000 E910,000). This facility accepts C&D type wastes from sources in Calvert County in addition to sources in several other Southern Maryland counties and Washington D.C. Over one-third of the total 49,776.43 tons received in 2006 came from Calvert County. Although this is permitted as a Processing Facility, over 99% (ninety-nine percent) of the material received at this facility was reported to be transferred for disposal out of State in Virginia at the private 623 Landfill, owned by Republic Waste Services, Inc. Of the less than one percent (0.4%) of

¹ Source: <http://www.mde.state.md.us/assets/document/factsheets/woodwasterecy.pdf>

² Personal communication with Nancy Halwick, Excavation Accounts Manager, Quality Built Homes, Inc., November 2007.

³ Mulches bark products purchased from sawmills; does not accept materials from public or generate its own materials for mulching; majority of material processed originates outside Calvert County, per phone conversations with Jolie of Hatcher facility, October and November 2007.

the materials received at this facility which were reportedly recycled, two-thirds was scrap metal and the balance consisted of concrete, yard waste, and cardboard.¹

¹ Solid Waste Tonnage Report for Calendar Year 2006, submitted to MDE by Calvert Trash Systems, Inc., dated 2/23/07.

**Table III-1(a) - Calvert County, Maryland
Original
2006 MRA Recycling Quantities (Tons) ¹**

Material	Residential	Commercial ²	Total
Animal Protein/Fat	2.48	168.64	171.12
Commingled Containers	862.02	375.00	1,237.02
Old Corrugated Cardboard	-	2,032.97	2,032.97
Newspaper	-	2,554.70	2,554.70
Mixed Paper	2,155.81	2,824.65	4,980.46
Brush and Branches	150.00	-	150.00
Mixed Yard Waste	1,918.94	20.00	1,938.94
Food Waste	-	74.02	74.02
MSW Compost ³ (Bark Products)	-	11,172.00	11,172.00
Wood Materials	-	35,494.00	35,494.00
Front-End Scrap	3,888.91	1,273.59	5,162.50
Lead Acid Batteries	36.23	21.25	57.48
Electronics	53.94	24.11	78.05
Other Metals – Propane Tanks	9.40	-	9.40
Textiles	165.00	188.17	353.17
Mixed Plastic	-	3.90	3.90
Plastic Code # ⁴	-	0.25	0.25
Other Plastic – Peanuts	-	0.10	0.10
Tires (Cement Kilns) ⁵	39.79	38.79	78.58
Other - Toner	0.18	-	0.18
White Goods	836.79	1.75	838.54
Other MRA Recyclables ⁶	16.24	18.82	35.06
TOTAL	10,135.73	56,286.71	66,422.44

¹ Source: Revised 2006 Calvert County, Maryland, MRA Tonnage Reporting Survey Form B, dated 8/1/07, and conversations with County Recycling Coordinator, May and August 2007.

² Commercial Recyclables includes recyclables collected from incorporated Towns of North Beach and Chesapeake Beach.

³ County staff indicated that tonnages placed in “MSW Compost” category were “Bark Products” from a single generator; MDE has accepted the report as submitted. GBB recommended utilizing “Wood Materials” or “Compost, Other” categories on future submissions. Note: Generated outside Calvert County, processed in Calvert County. See Chapter 4, Section D for more information.

⁴ Plastic code not noted on MRA report, County staff reported that plastic type was unknown.

⁵ County staff indicated that tonnages reported were 12% of the total tons of tires collected by County contractor and the contractor’s process does not result in any tires being recycled. MDE has accepted the report as submitted and is aware of the contractor’s activities.

⁶ Other MRA Recyclables includes litho plates/film, cell phones, oil filters, mercury, lamps/lights.

**Table III-1(b) - Calvert County, Maryland
Revised
2006 MRA Recycling Quantities (Tons) ¹**

Material	Residential	Commercial	Total
Animal Protein/Fat	2.48	168.64	171.12
Commingled Containers	862.02	375.00	1,237.02
Old Corrugated Cardboard	-	2,032.97	2,032.97
Newspaper	-	2,554.70	2,554.70
Mixed Paper	2,155.81	2,824.65	4,980.46
Brush and Branches	150.00	-	150.00
Mixed Yard Waste	1,918.94	20.00	1,938.94
Food Waste	-	74.02	74.02
MSW Compost ² (Bark Products)	-	0.00	0.00
Wood Materials ³	-	0.00	0.00
Front-End Scrap	3,888.91	1,273.59	5,162.50
Lead Acid Batteries	36.23	21.25	57.48
Electronics	53.94	24.11	78.05
Other Metals – Propane Tanks	9.40	-	9.40
Textiles	165.00	188.17	353.17
Mixed Plastic	-	3.90	3.90
Plastic Code #	-	0.25	0.25
Other Plastic – Peanuts	-	0.10	0.10
Tires (Cement Kilns)	39.79	38.79	78.58
Other - Toner	0.18	-	0.18
White Goods	836.79	1.75	838.54
Other MRA Recyclables	16.24	18.82	35.06
REVISED TOTAL	10,135.73	9,620.71	19,756.44

¹ Original Source: Table III-1 (a), revisions as noted, based on research by GBB staff.

² Material originally reported to MDE as “MSW Compost” was actually “Bark Products” from a single processor, generated outside Calvert County, but processed in Calvert County. Thus, this material was removed from Calvert’s MRA Recycling tonnages. See Chapter 4, Section D for more information.

³ Material originally reported by Calvert County staff as Wood Materials, Commercial MRA Recyclables, appears to have been recorded by MDE as Non-MRA Commercial Recyclables Land Clearing Debris. Thus, this material quantity has been removed from MRA Recyclables tonnages and added to Non-MRA Recyclables tonnages.

**Table III-2(a) - Calvert County, Maryland
Original
2006 Non-MRA Recycling Quantities (Tons) ¹**

Material	Residential	Commercial ²	Total
Waste Oil	197.74	419.23	616.97
Scrap Metal (Electronics)	10.40	5.71	16.11
C&D Debris (Poles-Rubble)	515.30	422.79	938.09
Coal Ash (Fly Ash, Pozzolan)	-	-	-
Soil	362.31	16,101.26	16,463.57
Scrap Automobiles	-	-	-
Land Clearing Debris	-	35,494.00 ³	35,494.00
Antifreeze	11.03	29.25	40.28
Other: Solvents and Freon	-	7.59	7.59
TOTAL	1,096.78	52,479.83	53,576.61

¹ Source: Revised 2006 Calvert County, Maryland, MRA Tonnage Reporting Survey Form B, dated 8/1/07, as resubmitted to MDE, and conversations with County Recycling Coordinator 2007.

² Commercial Recyclables includes residential recyclable materials collected in the incorporated Towns of Chesapeake Beach and North Beach.

³ Calvert County Recycling Coordinator reports that value submitted on MRA report to MDE was miswritten; correct value is represented in this table.

Table III-2(b) - Calvert County, Maryland
Revised
2006 Non-MRA Recycling Quantities (Tons) ¹

Material	Residential	Commercial	Total
Waste Oil	197.74	419.23	616.97
Scrap Metal (Electronics)	10.40	5.71	16.11
C&D Debris (Poles-Rubble)	515.30	422.79	938.09
Coal Ash (Fly Ash, Pozzolan)	-	-	-
Soil	362.31	16,101.26	16,463.57
Scrap Automobiles	-	-	-
Land Clearing Debris ²	-	46,805.80	46,805.80
Antifreeze	11.03	29.25	40.28
Other: Solvents and Freon	-	7.59	7.59
TOTAL	1,096.78	63,791.63	64,888.41

¹ Original Source: Table III-2a, revised as noted, based on research by GBB staff

² Quantity reported here consists of the 35,494.00 tons originally reported as Non-MRA Recyclables Commercial Land Clearing Debris and an additional 35,494.00 tons originally reported as MRA Recyclables Commercial Wood Materials. Based on research by GBB staff, the original 35,494.00 MRA Recyclables Commercial Wood Materials appears to have been categorized on annual state reports as Non-MRA Land Clearing, producing a total of County-reported 70,988.00 Non-MRA LCD tons. In addition, LCD tonnages not reported to the County were tallied by MDE in annual reports received directly from additional LCD facilities. Also, wood waste/land clearing debris sources in Calvert County indicated that not all of the material reportedly processed in Calvert County was actually generated in Calvert County; some material was generated outside Calvert County. Thus, the original reported MRA Recyclables Commercial Wood Materials tonnage was added back to the Non-MRA Recyclables Commercial Land Clearing Debris and the entire quantity adjusted to 46,805.80 tons, to account for appropriate material category and waste origin.

Table III-3 Calvert County, Maryland
Actual and Estimated Waste Quantities Generated for 2006 (Tons)

Table III-3 - 2006 Waste and Recyclables Tonnage		
Year		2006*
Population ¹		86,800
Employment ²		25,740
WASTE		
Residential ^{3,4,5}		38,587
Commercial, Industrial, Institutional ^{3,5}		27,754
Land Clearing, Construction & Demolition Debris (rubble) ^{7,8,7}		79,070
Controlled Hazardous Substances ⁸		13
Dead Animals ⁹		10
Bulky or Special Waste ¹⁰		140
Wastewater Treatment Plant Sludges ¹¹		4,592
Septage ¹²		0
Other Waste ¹³		15
SUBTOTAL WASTE		150,182
RECYCLABLES		
Residential ^{3,14,15}		10,255
Commercial, Industrial, Institutional ^{3,14,16,17}		9,624
Used Motor Oil ¹⁴		617
Vehicle Tires ¹⁸		655
Other Recyclables ¹⁹		150
SUBTOTAL RECYCLABLES		21,301
TOTAL WASTE AND RECYCLABLES		171,483

Notes

*Baseline data derived from calculations utilizing reported and estimated quantities for the year ending 12/31/2006. Please see footnotes and text discussion of adjustments made.

1 Population figure for 2006 was provided by the Calvert County Department of Planning and Zoning

2 Employment forecasts for 2005 and 2010 were provided by the Tri-County Council for Southern Maryland and the Metropolitan Washington Council of Governments. Figure for 2006, as an intermediate year, was interpolated. Employment forecast does not include construction employment, as construction waste is included in the estimates of Land Clearing, Construction and Demolition Debris. The forecast is based on the Federal Bureau of Economic Analysis (BEA) data taken from the tax returns filed in the County, which include not only wage and salary jobs, but also part-time, self-employed and home-based jobs. Note: Present employment projections are based on SIC classifications for 2002. In 2002/03 the US BEA switched to a different classification system, i.e. NAICS. More recent employment projections by industrial sector are not available due to the lack of historical data needed for employment projections based on NAICS classifications. Based on a conversation with Mark Goldstein an Economist with the Maryland Department of Planning (6/4/07)

3 Data for 2006 as reported by County to MDE on "Calvert County Appeal Landfill Solid Waste Tonnage Report-2006" and "Appeal Transfer Station Solid Waste Tonnage Report-2006" dated 3/7/07.

4 Includes household hazardous waste.

5 Original reports from County for waste and recycling classified as commercial and delivered across County scales at the Appeal Landfill facility included materials collected from incorporated Towns of North Beach and Cheseapeake Beach, as well as certain residential materials collected by refuse haulers in the unincorporated area of the County; these amounts were calculated and disaggregated by GBB then incorporated into Residential quantities.

6 Includes Land Clearing Debris and C&D Commercial Non-MRA materials, including all tonnage originally reported as Commercial MRA Wood Materials and is adjusted for out-of-county generation of material quantities.

7 Includes construction & demolition waste from new home and commercial construction, asphalt and concrete materials from road construction as reported to the County and land clearing debris (LCD) quantities managed at private landfills reported directly to MDE. Does not include materials originally reported by County and private facilities subsequently revealed by GBB to have been generated outside Calvert County.

8 Based on the 2006 data provided by Solomon's Annex/NAS Pax River and 2005 report submitted to the EPA by the operator of Calvert Cliffs Nuclear Power Plant.

9 Includes Dead Animals only. (Animal Protein/Fat are included in MRA Recyclables).

10 Includes Boats, Trailers, Appliances, and Furniture from County scalehouse records.

11 As reported by Calvert County Appeal Landfill on the 2006 Solid Waste Tonnage Report.

12 Septage quantities are included in the Wastewater Treatment Plant Sludge quantities. Septage is delivered to the Solomons Island WWTP in wet gallons by local scavengers and is then processed there.

13 Other Waste is from special projects such as "Christmas in April" event as reported by the County. Waste from other County special projects is not reported separately.

14 Data for 2006 as reported by County to MDE in revised "MRA Tonnage Reporting Survey" 2006 report dated 8/1/07 and adjusted for material origin and category.

15 Includes residential recyclables, MRA and Non-MRA materials, except Tires, Motor Oil, and Brush/Branches.

16 Commercial waste quantities for 2006 do not include 16,101 tons of soil from a construction project, to be used as landfill cover, that were reported as Commercial Non-MRA Recyclables, and 274 tons of petroleum contaminated soil, due to the specific projects creating one-time generation quantities of these materials.

17 Includes commercial recyclables, MRA and Non-MRA materials, except Tires, Motor Oil, Land Clearing Debris, and "Bark Products" (originally reported as "MSW Compost") which was processed in the County but subsequently revealed to have been generated outside Calvert County.

18 Data received from County as 2006 Residential "Tires Out" by contractor and Commercial Tires handled by tire-based businesses reported on 2006 Company Recycling Reports to County. Quantities reported may include some tires from St. Mary's County, due to reporting procedures in place at the time, which have subsequently been examined for revision.

19 Other Recyclables are from Christmas tree recycling event as reported by the County. Recyclables from other County recycling special projects are not reported separately.

Table III-4 Calvert County, Maryland
Actual and Estimated Waste Quantities Generated for 2006 (Tons)

REVISED Waste and Recyclables Generation Projections

Year	2006*	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Population ¹ (projected)	86,800	88,000	89,500	90,300	90,900	91,500	92,200	92,900	93,500	94,000	94,400	94,800	95,200
Employment ² (projected)	25,740	26,065	26,436	26,791	27,152	27,260	27,421	27,583	27,746	27,910	28,020	28,141	28,262
WASTE													
Residential ³	38,587	38,720	39,380	39,732	39,996	40,260	40,568	40,876	41,140	41,360	41,536	41,712	41,888
Commercial, Industrial, Institutional ⁴	27,754	28,127	28,504	28,888	29,277	29,393	29,567	29,742	29,918	30,095	30,213	30,343	30,474
Land Clearing, Construction & Demolition Debris (rubble)	79,070	80,163	81,529	82,258	82,804	83,351	83,989	84,626	85,173	85,628	85,993	86,357	86,721
Controlled Hazardous Substances ⁵	13	13	13	13	13	13	13	13	13	13	13	13	13
Dead Animals	10	10	11	11	11	11	11	11	11	11	11	11	11
Bulky or Special Waste	140	142	144	146	147	148	149	150	151	152	152	153	153
Wastewater Treatment Plant Sludges	4,592	4,655	4,735	4,777	4,809	4,841	4,878	4,915	4,946	4,973	4,994	5,015	5,036
Septage	0	-	-	-	-	-	-	-	-	-	-	-	-
Other Waste	15	16	16	16	16	16	16	16	17	17	17	17	17
SUBTOTAL WASTE	150,182	151,846	154,333	155,841	157,074	158,033	159,191	160,349	161,369	162,249	162,929	163,621	164,315
RECYCLABLES													
Residential ³	10,255	10,560	10,740	10,836	10,908	10,980	11,064	11,148	11,220	11,280	11,328	11,376	11,424
Commercial, Industrial, Institutional ⁴	9,624	9,754	9,885	10,018	10,153	10,193	10,253	10,314	10,375	10,436	10,477	10,522	10,567
Used Motor Oil	617	625	636	642	646	650	655	660	665	668	671	674	677
Vehicle Tires	655	664	675	681	685	690	695	701	705	709	712	715	718
Other Recyclables	150	197	199	202	205	206	207	208	209	210	211	212	213
SUBTOTAL RECYCLABLES	21,301	21,603	21,936	22,176	22,392	22,513	22,668	22,822	22,964	23,093	23,188	23,287	23,386
TOTAL WASTE AND RECYCLABLES	171,483	173,449	176,268	178,017	179,466	180,546	181,858	183,172	184,333	185,342	186,117	186,908	187,701

Notes

*Baseline 2006 data as presented in Table III-3.

1 Population forecasts for 2006 to 2018 were provided by the Calvert County Department of Planning and Zoning

2 Employment forecasts for 2010 and 2015 were provided by the Tri-County Council for Southern Maryland and the Metropolitan Washington Council of Governments. Intermediate years were interpolated. Employment forecast and does not include construction employment, as construction waste is included in the estimates of Land Clearing, Construction and Demolition Debris. The forecast is based on the Federal Bureau of Economic Analysis (BEA) data taken from the tax returns filed in the County, which include not only wage and salary jobs, but also part-time, self-employed and home-based jobs. Note: Present employment projections are based on SIC classifications for 2002. In 2002/03 the US BEA switched to a different classification system, i.e. NAICS. More recent employment projections by industrial sector are not available due to the lack of historical data needed for employment projections based on NAICS classifications. Based on a conversation with Mark Goldstein an Economist with the Maryland Department of Planning (6/4/07)

3 Projections for 2007-2018 based on the 2006 generation rate of 3.07 lbs/person/day (.56 tons/person/year) calculated by GBB, which includes residential recyclables. Using wastes and recyclable quantities generated in 2006, residential generators recycled 21% of all residential materials. Thus, the residential total generation rate of 3.07 lbs/person/day is allotted at 79% waste (2.42 lbs/day or .44 tons/year) and 21% recyclables (.66 lbs/day or 0.12 tons/year) per person, per day.

4 Commercial, Industrial, Institutional waste and recyclables tonnage projections are based on the 2006 generation rate per employee.

5 It is assumed that the CHS produced by applicable facilities will remain constant.

Table III-5 Calvert County, Maryland
Reported LCD Material

Calvert County Reported LCD Material			
Total Tonnage Reported	Out-of- County Tonnage	In-County Tonnage	Facility Submitting Report *
13,962	1,396	12,566	Hance
14,532	12,796	1,736	Hatcher (Recycled Wood) **
4,354	4,354	-	Hatcher (Woodchips) **
9,450	-	9,450	Howlin
150	-	150	Navy
38,140	15,256	22,884	Quality Built Homes ***
20	-	20	Wentworth
80,608.00	33,802.20	46,805.80	TOTAL Non-MRA Commercial LCD Material
* Quantities revised based on conversations with facility personnel, 11/07			
** Material Tonnage calculated from cubic yards by facility/County			
*** Reported Tonnage includes Natural Wood Wastes and LCD materials			

**Table III-6. Calvert County, Maryland
Solid Waste Received at Convenience Centers in 2006**

Convenience Center	Tons
Appeal	5,670.88
Ball Road	3,264.64
Barstow	2,089.98
Huntingtown	1,860.15
Lusby	3,844.27
Mt. Hope	5,188.98
Plum Point	2,875.68
TOTAL	24,794.58

**Table III-7 Calvert County, Maryland
Residential Waste Quantities (Tons)**

Estimated County Residential Waste Tonnage in CY2006

Location / Facility Type	Number of Single-Family and Duplex Households¹	Tons of Waste	Collection Method
North Beach & Chesapeake Beach ²	2,194	2,696	Curbside collection
Convenience Centers & Appeal ³	19,073	24,795	Drop-off
Subscription and On-site Disposal ⁴	7,622	9,909	Curbside collection
TOTAL	28,889	37,400	

¹ Source: Calvert County per 2000 Census data plus additional permits issued through 2006. Does not include boats, vans, RVs and multi-family over duplex size.

² Tonnage data are for CY 2006.

³ Number of households are estimated based on an average 50 lbs/household/week (or 1.3 tons/household/year).

⁴ Tonnage is estimated based on the remaining number of households (after removing those households in North Beach, Chesapeake Beach and those estimated to be using the Convenience Centers and Appeal) multiplied by 1.3 tons/household/year.

Table III-8 Selected Industrial Waste Generators, Calvert County, Maryland¹

Company/Contact	Waste Types	Handling Method	Name of Hauler	Dumpster Size	Collection Frequency
Custom Marine Fabrication, Inc. P.O. Box 1207 Solomons, 20688 410-326-6535 Mr. Randolph Payne Jr.	Scrap metal	Recycle with Montgomery Scrap	Waste Management Inc.	Marina provides the dumpster	2 x/week on Tuesday and Saturday
Victor Stanley, Inc. P O Drawer 330 Dunkirk, 20754 301-855-8300 Butch Alleva	Wood scrap and scrap metal	Wood scrap - hauled by WM Inc. to a landfill, scrap metal hauled by Billy Warren and Sons - recycle	Waste Management Inc.	30 yard dumpster - Scrap Wood 30 yard dumpster - Scrap Metal 8 yard dumpster - Trash	2x/month, 1x/month 1x/week
Batching Systems, Inc. 50 Jibsail Dr, Prince Frederick, 20678 410-414-8111 Don	Paper, cardboard, regular trash	Trash cans	Waste Management Inc.	8 cubic yards	1x/week
Chesapeake Plastics Ship Point Industrial Park, Lusby, 410-326-3004 Mark McGrath	Plastic molding waste and used paper goods	Trash cans with plastic liners	Bay Area Disposal	6 cubic yards	1x/week
Chesapeake Marble Manufacturing 665 Keith Ln Owings, 20736-3106 301-855-0587 Mr. Dennis Leary	Paper	Put in dumpster	Landlord provides dumpster	Unknown	Weekly
DuPaul's Catering & Gourmet P.O. Box 2409 Prince Frederick, 410-535-0866/410-535-5882 Ms. Paula VanTassel	Plastics, grass, cardboard, regular kitchen trash	Blackbagged into dumpster.	Case Waste	8 cubic yards	2x/Weekly

¹Source: Telephone survey conducted by Gershman, Brickner & Bratton, Inc., Solid Waste Management Consultants, May 2006.

Table III-4. Selected Industrial Waste Generators, Calvert County, Maryland (Continued)

**Table III-9 Calvert County, Maryland
Schools and Student Enrollment**

Public ¹			Non-Public ²		
School Level	Number of Schools	Enrollment	School Level	Number of Schools	Enrollment ³
Elementary	12	7,184	Pre-Kindergarten thru to 6th Grade	-	1,027
Middle (6th-8th grade)	6	4,121	Grades 7-12	-	317
High School	4	5,594	Un-graded ⁴ Elementary	-	41
Calvert County Career Center	1	No enrollment – high school students attend part-time	Un-graded Secondary		12
Calvert County Alternative School	1	22	-	-	-
Calvert County Special Education	1	66 (varies from month to month)	-	-	-
TOTAL	25	16,987	-	16	1,397

¹Personal communication, Patricia Jenkins, Calvert County Public Schools, May 2006.

²Personal communication, Alicia Singleton, Data Processing Functional Analyst, Maryland Department of Education, May 2006.

³The breakdown of student enrollment in non-public schools is by grade level rather than type of school. In the non-public school system, there are eight kindergarten and/or pre-kindergarten schools, four elementary schools, and four combined elementary and secondary schools.

⁴Ungraded students are classified as special education students in self-contained class room

**Table III-10 Calvert County, Maryland
Remaining Capacity of Land Clearing Debris Landfills**

Land Clearing Debris Landfills by Facility Name	Quantities Managed in 2006 (cubic yards)	Remaining Capacity (at December 31, 2006) (cubic yards)
Howlin Land Clearing Debris Landfill	7,560	41,020
Hill Land Clearing Debris Landfill ¹	0	2,900
M.T. Parran Land Clearing Debris Landfill ²	0	45,060
Hance Land Clearing Debris. Landfill	13,962	140,080

Source: Information received from MDE regarding land clearing debris landfills in Calvert County, transmittal memo dated July 2, 2007 from Tariq Masood, Office of Reports & Data Management.

¹ Reportedly in Post Closure care.

² No waste reported on MDE annual report.

Table III-11
Hazardous Waste Generation
Calvert County, Maryland

Material	Generator	Quantity (Lbs)
Activated Carbon	CCNPP	1
Alodine & Debris	Solomon's Annex	1,153
Aqueous Ammonia Solution	CCNPP	6,000
Batteries	Solomon's Annex	593
Blast Filters	Solomon's Annex	1,700
Bulbs	Solomon's Annex	179
Butane	CCNPP	2
Epoxy Coatings	CCNPP	522
Ether Cyl	Solomon's Annex	98
Gas/Oil Mix	Solomon's Annex	340
HW Debris	Solomon's Annex	90
HYD FLD & Freon	Solomon's Annex	160
Lab Pack Chemicals	CCNPP	253
Lead Contaminated Debris	CCNPP	150
Mercury-Filled Equipment	CCNPP	15
Paint	CCNPP	5,115
Paint	Solomon's Annex	10,469
PD-880/Clean CMPD	Solomon's Annex	40
Propane	CCNPP	4
TOTAL		26,884

CCNPP = Calvert Cliffs Nuclear Power Plant

Solomon's Annex = Naval Air Station Pax River Solomon's Annex

Sources: US Environmental Protection Agency, 2005 Biennial Hazardous Waste Report for Calvert Cliffs Nuclear Power Plant CHS Generation and Department of Navy Environmental Program NAVAIRSEFAC Solomons Quarterly Hazardous Waste Disposal 2006 Cumulative Total.

**Table III-12 Calvert County, Maryland
WWTP Sludge Generation Estimates in 2006
(Dry Tons, except where shown otherwise)**

WWTP	Approximate Quantity	Disposal Method¹
Chesapeake Beach	1,483	Landfill
Prince Frederick 1 ²	0	Landfill
Prince Frederick 2	863	Landfill
Calvert Cliffs Nuclear Power Plant	176,800 (Wet Gallons)	Solomons Island WWTP
Northern High School	8,000 (Wet Gallons)	Solomons Island WWTP
Randle Cliffs	0.41	Landfill
Calvert County Industrial Park	28,000 (Wet Gallons)	Solomons Island WWTP
Solomons Island ³	2,092	Landfill
Marley Run	0	Solomons Island WWTP

¹All sludge noted as "Disposal Method- Landfill" is transported to the Appeal Landfill where it is loaded by County staff into sludge trailers for delivery by Duffield Hauling, Inc. and disposal at the King George Landfill in Virginia.

²Lagoons are reported to require dredging only once every 10 years; it is expected that dredging will not be required until the year 2013.

³ County reports that tonnages shown for Solomons Island include the processing of all material from other facilities reported as Wet Gallons disposed at Solomons Island WWTP.

**Table III-13 Calvert County, Maryland
Estimated Quantities of Septage Collected by Scavengers
(Gallons)¹**

Scavenger	Gallons Collected for 2006 (Gallons)	Approx. Number of Households Served Per year (or other)	Method of Disposal
Brother's Johnson	1,438,866	N/A ²	the septic receiving station at Solomons Island WWTP at Appeal Landfill
C&C Plumbing & Septic	1,183,440	156 - 208	the septic receiving station at Solomons Island WWTP at Appeal Landfill
Calvert Septic	25,492	N/A	N/A
Copsey's Septic Service	641,751	1800 - 2000	the septic receiving station at Solomons Island WWTP at Appeal Landfill
Cotton's Septic	869,345	N/A	N/A
Down's Plumbing & Heating	487,100	1 – 2/month	the septic receiving station at Solomons Island WWTP at Appeal Landfill
Eugene Copsey Plumbing	953,014	N/A	the septic receiving station at Solomons Island WWTP at Appeal Landfill
Glover's Septic	210,975	N/A	N/A
J&J portables	597,841	500 - 600	the septic receiving station at Solomons Island WWTP at Appeal Landfill
James R. Willson, Jr.	545,357	N/A	N/A
Jimmy's Septic	777,636	N/A	N/A
Larry Hills & Sons Excavating	24,743	50 - 75/year	the septic receiving station at Solomons Island WWTP at Appeal Landfill or METCOM in St. Mary's County
Lee Industries, Inc.	747,488	100 per month	WSSC & Appeal Landfill
Mulford Maintenance	165,610	N/A	N/A
Outback Porta-Jon	323,200	N/A	N/A
Stillwater Septic	208,101	100	the septic receiving station at Solomons Island WWTP at Appeal Landfill
Wayne's Drains and Backhoe	532,675	96/year	the septic receiving station at Solomons Island WWTP at Appeal Landfill
Grand Total	9,732,634		

¹Source: Telephone survey conducted by Gershman, Brickner & Bratton, Inc., Solid Waste Management Consultants, 2006.

²N/A: Scavenger was unable to provide information or did not respond to survey.

**Table III-14 Calvert County, Maryland, Results of Survey of
Selected Medical Waste Generators¹**

NAME	Practitioner	Medical Waste Hauler	Estimated Quantity Disposed
Calvert Memorial Hospital ²	Doctors	Stericycle (formerly Nicklin)	52.61 tons in 2006
American Surgical Associates	Doctor	Calvert Memorial Hospital	N/A ³
Dr. Bennett Frankel	Dentist	Stericycle	30 gallon box, once a month
Dr. Mark Frazer	Dentist	BFI Medical Services	N/A ³
Dr. Kenneth Kates, Jr.	Dentist	Stericycle	Approximately one large cardboard box (30 gallons) three times per year
Dr. Wayne Noelle	Doctor	Bio Medical Waste Services, Inc.	small box collected once every six months
Dr. Robert Schlager	Doctor	N/A ³	N/A ³
Dr. Sheldon Seidel	Dentist	N/A ³	Orthodontist - no RMW generated, Only sharps. Purchase from company, use, reseal and mail back to company
Dr. Daung Silpasuvan	Doctor	BFI Medical Services	2 boxes every 3 months
Dr. Gerald Sterner	Doctor	BFI Medical Services	One cardboard box (30- gallon) every quarter
Dr. Frank A. Triana	Doctor	Stericycle	1 medium box (4.4 cubic feet) once a week
Dr. John Weigel	Doctor	Calvert Memorial Hospital	N/A ³

Note 1: Medical Waste Generators indicating "Calvert Memorial Hospital" as their Medical Waste Hauler are part of the Calvert Memorial Hospital system, housed at the main hospital facility or outlying clinics.

Note 2: As of 2007, "BFI Medical Services" is not listed as a Certified Medical Waste Transporter, per Maryland Department of the Environment Waste Management Administration Hazardous Waste Program.

¹Source: Telephone survey of selected physicians and dentists in Calvert County conducted by Gershman, Brickner & Bratton, Inc., 2006.

² Source: Hospital tonnage generation for 2006, Conversation with Robert Barone, Director of Environmental Services, Calvert Memorial Hospital, August 30, 2007.

³ N/A: Medical Waste Generator was unable to provide information.

Figure III – 1

Calvert County, Maryland Convenience Centers

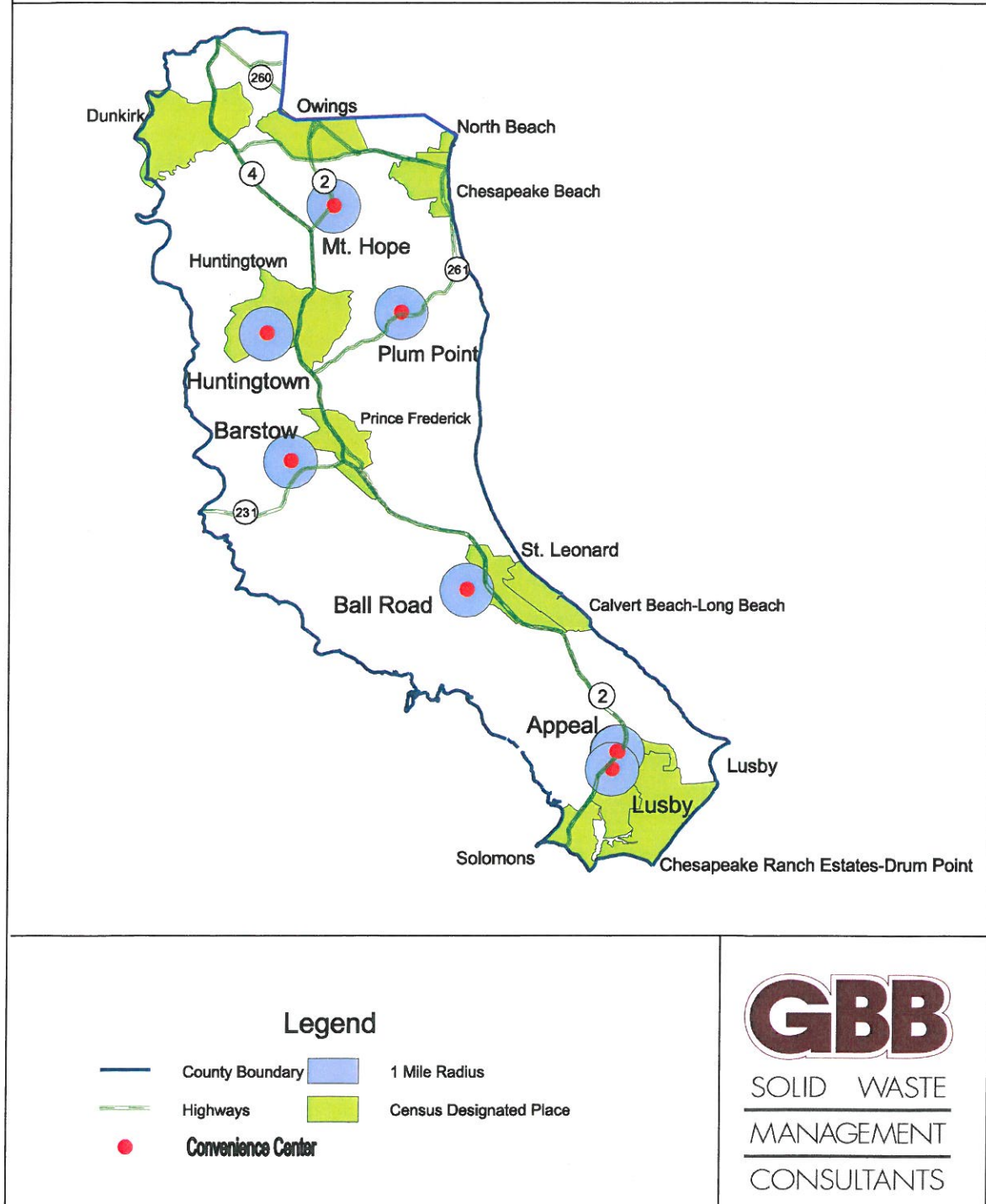
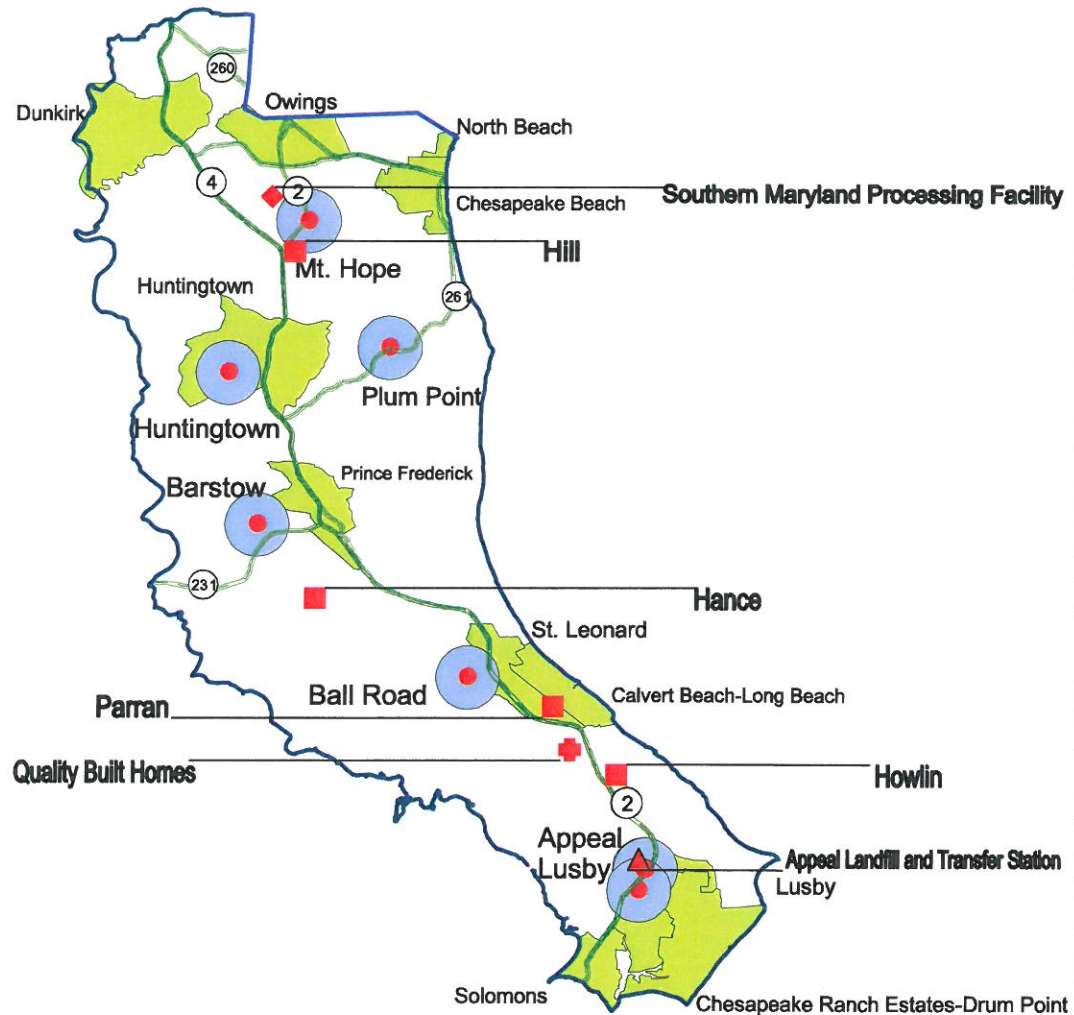


Figure III – 2

Calvert County, Maryland Existing Solid Waste Acceptance Facilities



Legend

- | | |
|-------------------------|---------------------------------------|
| County Boundary | 1 Mile Radius |
| Highways | Census Designated Place |
| Convenience Center | Land Clearing Debris Landfill |
| C&D Processing Facility | Appeal Landfill and Transfer Station |
| | Natural Wood Waste Recycling Facility |

GBB
SOLID WASTE
MANAGEMENT
CONSULTANTS

Exhibit III-1

Major Haulers Serving Calvert County

	Waste Management	Calvert Trash	Case Waste	Bay Area Disposal	Drury Bothers	Southern Maryland Recycling	Dyson	A&B	WRA
Number of businesses served by your firm in Calvert County?	300-400	410	200	30	36	50	N/A	20	10
Number of households served by your firm in Calvert County?	2200	3654	No Residential Collection	Estimated 500 1000	No Residential Collection	1200	No Residential Collection	120/year	No Residential Collection
The average amount of trash collected in Calvert County by type (e.g., residential, commercial, other)	9 tons/day residential, 15 tons/day commercial	6,585 tons - commercial (CY 2005), 3,648 tons (CY 2005) - Residential	Commercial - 300 tons/month	2% of 100% monthly commercial	50 - 60 tons per week	N/A	650 tons/year	1300 tons per year residential; 2600 tons per year commercial	100 tons/year
The average quantity of trash typically collected at each residence?	1-2 96 gallon totes are dumped at each residence	39.84 lbs/pick-up (average) 420 lbs/pick-up (average)	N/A	N/A	N/A	4 bags per collection	N/A	5 tons per day	N/A
Set out requirements for residential service? (e.g. container size, # of bags or containers that can be set out, type of container, location of setout, etc.)	Only totes will be dumped, no external waste; set out curbside	optional 96-gallon Toter or bags for residential and for commercial	6 cubic dumpster on average	N/A	15 - 18 Cubic Yard Roll-off Dumpsters	Covered container, no C&D waste	Roll-off Dumpsters for construction and demolition debris	20 cubic yard and 30 cubic yard container options	30 Cubic Yard roll-offs
Do you collect residential recyclables? If yes, what types and the amount of such recyclables collected?	No	no	N/A	N/A	N/A	Yes, newspaper, tin cans, Aluminum cans, plastic bottles	N/A	No	N/A
Do you collect commercial recyclables? If yes, what types and the amount of such recyclables are collected in Calvert County?	Yes-mostly cardboard, a little mixed paper; 8 tons per service day (3 days per week)	cardboard	cardboard	No	No	Yes, ferrous and non ferrous metals, cardboard, newspapers, asphalt, brick, concrete	N/A	N/A	No
How often do you collect residential waste?	Once per week; 4 collection days of different districts	Once per week	N/A	N/A	N/A	Some once per week some twice per week	N/A	On call basis	N/A
Where is your final disposal destination for residential and commercial waste collected in Calvert County?	Calvert Transfer Station	Appeal Transfer Station or Brown Station LF or Curtis Creek TS		Appeal Transfer Station	Appeal Transfer Station or Calvert Trash Processing Facility	Some Appeal Landfill, some Calvert Transfer Station and some is exported	Appeal Transfer Station	Appeal Transfer Station	Appeal Transfer Station
Where are recyclables hauled for processing?	Recycle America-Kit Kat Road	Prince George's County Recycle Center, Capitol Heights, MD (CRINC)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Source: Telephone survey conducted by Gershman, Brickner & Bratton, Inc., Solid Waste Management Consultants, 2006.

N/A: Hauler was unable to provide information.

Note 1: The Town of Chesapeake Beach is under contract with Calvert Trash for collection of residential waste in the municipality. The Town continues to collect bulky waste from residents with its own resources.

Note 2: The Town of North Beach is under contract with Southern Maryland Recycling to provide residential waste collection, including bulky wastes, to single-family residents.

Exhibit III-2
Calvert County, Maryland
Marinas with Pump-out Facilities in Place

Marina Name	Pump-out Facility Status
Abner's Marina	In Place
Breezy Point Marina	In Place
Calvert County Pump-out Station	In Place
Calvert Marina	In Place
Comfort Inn Beacon Marina	In Place
Flag Harbor Yacht Haven	In Place
Harbor Island Marina	In Place
Hospitality Harbor Marina	In Place
K.B. Derr and Son, LLC	In Place
Lens Marina	In Place
Point Patience Marina	In Place
Rod n' Reel	In Place
Rod N' Reel Marina West (Formerly Fishing Creek Landings)	In Place
Solomons Landing Marina	In Place
Spring Cove Marina	In Place
Solomons Yachting Center	In Place
Vera's White Sands Restaurant & Marina	In Place
Zahniser's Yachting Center	In Place

Source: Phone conversation with Maryland Department of Natural Resources - Watershed Services Unit. August 2007

Exhibit III-3

Sawmill Road Natural Wood Waste Recycling Facility Calvert County, Maryland

Annual Tonnage Report for 2006

	NATURAL WOOD WASTE PRODUCT PRODUCED BY PROCESSING		NATURAL WOOD WASTE PRODUCT REMOVED FROM THE FACILITY		RESIDUAL WASTE REMOVED FROM THE FACILITY	
	VOLUME (Cu. Yd.)	WEIGHT (Tons)	VOLUME (Cu. Yd.)	WEIGHT (Tons)	VOLUME (Cu. Yd.)	WEIGHT (Tons)
TOTAL	35,125	14,050	38,610	14,256	11	41

Source: Maryland Department of the Environment, 2006 Annual Tonnage Report as prepared by Site owner, Quality Built Homes, Inc., Calvert County, Maryland

CHAPTER FOUR

ASSESSMENT OF COUNTY NEEDS

A. COLLECTION AND RECYCLING SYSTEMS

While the current systems of waste collection in the County have been adequate to meet the solid waste and recycling collection needs of County residents and businesses, with the significant growth in population and increased tourist traffic, there are days when certain of the County's Solid Waste Convenience Centers are over burdened. It is estimated that over 65 percent of single-family residences in the County are served by these Convenience Centers. In addition to two municipalities, there are currently over 500 subdivisions and seven town centers (consisting of 2 major town centers and 5 minor town centers) wherein 77 percent of the County's 26,833 single-family households reside. The County could consider the development of a County-administered system of contracted districts for curbside collection of solid waste and, potentially, recyclables for single-family residences and possibly certain multi-family dwellings. This system could be for the entire County or a substantial portion of the County. This collection arrangement could replace the open market, subscription collection system and the use of Convenience Center/compactor sites for residents to drop-off residential waste and certain recyclables, which has been longstanding in the County. Under this new system, the County could be responsible for contracting residential waste and, potentially, residential recyclables collection to private collectors through a competitive proposal or bid process. Under this system, collection of commercial waste and recyclables would remain an open market subscription system.

1. Residential Collection and Recycling

Currently, residents of Calvert County are served by several possible residential waste and recycling collection systems. Residents may deliver solid waste and recyclables to one of the County's staffed Convenience Centers that include recycling drop-off containers. Alternatively, residents may arrange for collection on a subscription basis with one of several private haulers that provide solid waste and (in some cases) recycling collection services.

The staffed trash Convenience Centers and recycling drop-off system is a convenient, sanitary, cost-effective way to handle the collection and transport of residential solid waste and recyclables to central disposal and processing areas. Drop-off recycling capacity and used oil, oil filters and antifreeze collection facilities have been put in place at all Convenience Centers including the Appeal Municipal Landfill. It is anticipated that the staffed Convenience Centers/recycling site system will be continued at a certain level to handle a portion of the residential waste and recyclables collection needs in the County and augment curbside collection. However, as noted above, the County could evaluate a much more extensive system of curbside collection of residential waste and recyclables

and could expect to implement such a program of County-administered collection districts during the 10-year period of this Plan. Lead time for the planning and development of such districts could be expected to take at least 18 months and, more likely, two or more years. Through such districts, with the inclusion of curbside collection of recyclables and retaining certain of the Convenience Centers, the County estimates that its diversion rate to recycling could be elevated by approximately 5 percent or more.

The County is in the process of updating and making improvements to a number of its Convenience Centers.

- a. A study is being undertaken to determine the cost and design for the Appeal Municipal Landfill Convenience Center. The current drop off area will be relocated based on the results of the study.
- b. The Mt. Hope Convenience Center will be improved by the relocation of the existing entrance to the site and adding a second compactor. The configuration of the entire site will be modified to improve the safety and use of this compactor site.
- c. The Lusby Convenience Center is proposed to be relocated and redesigned to improve its safety and accessibility.

The County will continue to monitor and evaluate the residential waste and recycling collection system to determine how the County can improve the efficiency and cost-effectiveness of the collection system, reduce adverse environmental impacts, and elevate the recycling rate.

2. Commercial, Institutional, and Industrial Collection and Recycling

Businesses, institutions, and industrial generators in Calvert County are largely served by one of two waste collection scenarios: (1) contract with a private hauler; or (2) self-haul to the Calvert County Transfer Station or another facility out-of-County. There are several private haulers with sufficient equipment to serve the County, and this collection system is deemed to be adequate to handle the waste collection needs of Calvert County's commercial/industrial/institutional sector during the 10-year period covered by this Plan.

Similarly, recycling opportunities are available for Calvert County businesses, industries, and institutions through private collection arrangements or self-haul to a County or out-of-County recycling center. The County will continue to monitor the recycling collection needs of this sector and determine if additional incentives are needed to encourage the County's institutional and private sector entities to maximize waste reduction and recycling. Among the initiatives that may be considered are: (1) mandatory reporting requirements; (2) voluntary or mandatory separation requirements; and (3) increased technical assistance and outreach to generators and collectors.

B. PROCESSING/DISPOSAL SYSTEMS

The solid waste disposal needs of Calvert County are anticipated to be met during the 10-year period of this Plan. The County's contract with Waste Management, Inc. for transfer

and disposal extends beyond the 10-year planning period, and the King George Landfill, the disposal location in Virginia operated by Waste Management, Inc. has permitted capacity for the County's waste extending beyond 10 years. As reported to the Virginia Department of Environmental Quality, the King George Landfill received over 1.2 million tons of solid waste in 2006, and at December 31, 2006, it had a remaining permitted capacity of 14,200,000 tons. Too, Waste Management, Inc. has an obligation to provide alternative disposal if King George Landfill would not be available due to no fault of Calvert County, and Waste Management, Inc. owns and operates several other large megafills in Virginia. The Calvert County Transfer Station provides much flexibility to access other disposal sites if necessary. As backup, the existing Appeal Municipal Landfill has capacity, if needed, to serve the County's projected municipal solid waste disposal needs for more than 15 years.

Calvert County will continue to monitor the need for additional processing or disposal capacity in the County for special waste stream items, such as rubble and land-clearing debris. It is expected that any additional processing or disposal capacity for special waste streams will be developed by the private sector, in accordance with all applicable federal, State, and local laws and regulations. The County will review the need for additional facilities and the appropriateness of any proposed private facilities during required permitting and zoning reviews.

C. ESTABLISHMENT OF SOLID WASTE FACILITIES

Compliance with the Calvert County Comprehensive and the Zoning Ordinance is required in establishing a new collection or disposal area. According to the Zoning Ordinance, landfills and solid waste collection sites are only permitted in certain zoning districts. Landfill disposal areas and collection sites are excluded from areas where serious environmental constraints such as wetlands, highwater table conditions, tidal flood plains and the County Critical Area pose obvious problems.

When a tentative site has been chosen as meeting the obvious criteria of compatible land use and as being in accordance with the County Zoning Ordinance and Comprehensive Plan, a detailed site investigation is necessary to actually determine if it is actually acceptable in terms of meeting adopted State criteria to protect the environment.

Calvert County will continue to follow State guidelines and will implement regulatory requirements as imposed to operate sanitary and environmentally safe disposal facilities. Key physical conditions and constraints in the County that would be essential to consider in evaluating sites for future solid waste facilities are described below.

1. Topography

The topography of Calvert County is variable and rugged. An upland plain runs generally in a northwest - southwest direction and forms the central spine of the County. This ridge has a slope upward from the Solomons area (approximately 180 feet above sea level). A few flat-topped narrow areas in the upland remain as the only remnants of the original

plain which erosion has not yet destroyed. On the Chesapeake Bay (east) side of the County, the upland terminates in high Cliffs of clay, sand, and gravel rising from the water's edge to a maximum of approximately 125-137 feet in height. All streams in this area have eroded deep ravines in the Cliffs line. On the west, or Patuxent River Boundary, the upland areas slope toward the river in several long narrow divides. Along most of the Patuxent River there is a level terrace commonly called "bottom land" that varies in width and elevation. This "bottom land" is widest in the vicinity of Solomons Island and at the mouth of Hunting Creek. The elevation here varies from approximately 10 to 40 feet.

2. Soils

Southern Maryland is wholly underlain by unconsolidated sediments. The distribution of the Beltsville, soils which form three associations in Southern Maryland, approximates that of the Upland Deposits. These soils are characterized by a frangipan or "hardpan" 16 to 25 inches below the surface, essentially a dense compact subsoil which inhibits root penetration and water movement. Consequently, the Beltsville and associated soils are poorly adapted for agriculture. Westphalia soils are closely associated with outcropping Chesapeake Group sediments. As such, they blanket most of Calvert County as well as the eastern portions of Prince George's, Charles, and St. Mary's Counties – areas where the Upland Deposits are much dissected, thin, or absent, exposing the underlying Miocene rocks. Such soils are generally deep, well drained, and admirably suited to agriculture.

Probably the best correspondence among geology, topography, and soils is the case of the Othello soil association which is essentially confined to the lowland flats bordering the Potomac and Patuxent Rivers. Othello soils have generally developed on the fine-grained upper member of the Lowland Deposits. Due to the lithology and low elevation, surface drainage is relatively slow and water tables are elevated during much of the year. With adequate artificial drainage, soils of the Othello association are agriculturally useful.

The final association in Southern Maryland, composed of the Pope and related soils, is represented solely by the Bibb series – light-colored, poorly-drained soils developed on the alluvium flooring the larger stream valleys.

Those seeking more detailed soil mapping or statistical information on soil types should consult Soil Survey, Calvert County, Maryland, by U.S. Department of Agriculture Soil Conservation Service and the Maryland Agricultural Experiment Station, U.S. Government Printing Office, Washington, D.C., July 1971 issue.

3. Geology

Southern Maryland is composed wholly of typically unconsolidated sedimentary deposits ranging in age from Early Cretaceous to Late Pleistocene. Bedding strikes generally northeast southwest and dips southeast at very low angles, mostly much less

than 1°. The gross outcrop pattern is thus a succession of roughly arcuate bands which become younger to the southeast. The exceptions are the Plio-Pleistocene alluvial deposits, i.e. Upland and Lowland deposits, which are nearly flat-lying and unconformably blanket all of the older rocks.

Structurally, Southern Maryland lies very nearly on the axis of the Chesapeake-Delaware Embayment-a shallow open-ended east-plunging basin in the basement surface. Most of the Embayment fill is Cretaceous sediment, several thousand feet in thickness. Beneath Southern Maryland, only about 25% of the sediment column is Tertiary-Quaternary. Broadly viewed, stratigraphic units within the Embayment are slightly tilted planar sheets which thicken southeastward; in detail, however, minor structures in the form of broad shallow folds, expressed as strike rotations and local dip reversals, are not uncommon. An example of the latter is the Brandywine structure -an elongate domal warp centered in southern Prince George's County which is thought to involve all of the Coastal Plain rocks, at least through the Lower Cretaceous.

The oldest rocks outcropping in the survey area (Cretaceous) are confined to the northwestern portion of the region. Two units, the Patapsco and Monmouth Formations, totaling about 50 feet of exposed section, are represented. The Early Cretaceous Patapsco Formation, of which only the uppermost few tens of feet are exposed, is primarily a tough silty clay mottled in varying shades of red and gray. Minor amounts of yellowish argillaceous sand are interbedded with the clay. In contrast, the overlying Monmouth Formation consists of dark variably glauconitic fine sand and silt with a thin basal quartzose gravel. Immediately southeast of the Cretaceous rocks is a broad belt of Paleocene-Eocene sediments, mostly greensands, making up the Aquia and Nanjemoy Formations and the Marlboro Clay. These three units have an aggregate thickness of about 300 feet in outcrop. The Aquia and Nanjemoy Formations are similar dark greenish gray glauconitic sands separated by 20 to 30 feet of pale-reddish to silvery Marlboro Clay. Overlying the Nanjemoy Formation, and in fact making up the bedrock over most of the Southern Maryland peninsula, is the Chesapeake Group nearly 300 feet of Miocene fine-grained sand, silt, and clay. Of the component formations of the Group, the Calvert is the thickest at 150 to 200 feet, the St. Mary's of intermediate thickness at about 80 feet, and the Choptank least thick at about 55 feet. Lithologically, the three units are somewhat similar, encompassing greenish to bluish-gray, fine argillaceous sand and silt; dark-gray clay; and highly-fossiliferous, fine to medium sand. The remaining sediments in Southern Maryland-Plio-Pleistocene sand, gravel, and subordinate silt-clay -constitute a thin veneer spread over the truncated edges of the older Tertiary and Cretaceous rocks.

4. Location

Generally, assessment of location is performed upon siting a specific solid waste management acceptance facility. Consideration is also given to the remaining capacity of existing landfills in the County and region, the need for local versus a regional facility, site accessibility, screening from adjacent properties, the amount of material expected to be generated in the service area, the maximum height and depth to which materials

can be placed, the rate of daily compaction and the period of time the site may remain in operation, among other factors.

5. Aquifers and Ground Water Quality

Ground water is Calvert County's primary water source and is readily obtainable in sufficient quantities to supply current private and commercial requirements. Recent aquifer studies indicate that sufficient ground water should be available for County needs beyond the year 2030.

Calvert County is situated over a favorable geological formation of groundwater resources. Four major aquifers (Piney Point, Nanjemoy, Aquia, and Magothy) supply nearly all of the County's potable water. In the central region of the County, these aquifers reside 150-250 (Nanjemoy), 400-500 (Aquia), and 650-700 (Magothy) feet below sea level. The Piney Point aquifer develops further South in the County and around the Calvert Cliffs Nuclear Power Plant, it resides at about 150-300 feet below sea level. At this location, the Nanjemoy and Piney Point formations are hydrologically connected and difficult to distinguish (DNR, 1987).

Lower Cretaceous rocks underlying the County are another possible source of water for deep wells. Data concerning ground water resources of the County is contained in Maryland Geological Survey Basic Data Report No. 4 and USGS Hydrologic Atlas No. HA-365. The Maryland DSP Geology, Aquifers and Minerals Technical Report, dated December 1973 also contains useful analysis and descriptions of major geologic formations in the County.

a. Magothy Aquifer

A study of the Magothy aquifer was completed by the Maryland Geological Survey in 1977. The report indicates that the Magothy is a major ground water source for the northern two-thirds of the County. Quality is generally good, although mineral traces have been found at some locations.

b. Piney Point Aquifer

A study of the Piney Point aquifer was made by the Maryland Geological Survey. Basic field data have been obtained from a review of existing well records, supplemented by a series of new test borings. A digital simulation of the aquifer model was prepared which provides data on the productivity of the Piney Point aquifer in Calvert County. Information currently available indicates that the Piney Point Formation is a major aquifer in Calvert County.

The formation consists of glauconitic medium to coarse grained sand and interspersed shell beds from 10 to more than 100 feet thick, but generally only 50 to 60 feet thick. The Piney Point Formation has no known surface out-crop. The maximum altitude of its known occurrence is about 80 feet below sea level at a point along the Patuxent River.

Locally the sands of the Piney Point Formation appear to be hydrologically connected with the sands of the underlying Nanjemoy Formation; therefore, the two formations may function as a single aquifer.

The yields of wells range from less than 10 to about 1,200 gallons per minute (gpm). The Piney Point Formation is a source of water for the Patuxent Naval Air Station and hundreds of domestic wells throughout the area. The chemical quality of the water is good and is relatively uniform, with water treatment seldom required.

c. Aquia Aquifer

The Aquia Aquifer, which underlies the Piney Point, is a more productive ground water source than the Piney Point. It supports the large municipal and industrial systems in Calvert and St. Mary's Counties. It is believed that an important source of recharge for the Aquia is downward leakage of ground water from the Piney Point.

Ground water usage in Calvert County is confined mainly to residential and small commercial units. Exceptions are the industrial demands of the Calvert Cliffs Nuclear Power Plant and the Cove Point LNG Plant. To date, the water reserve of the various aquifers has been more than sufficient to meet the daily requirements of the County. Specific capacities (gpm/ft) of the two major formations (Nanjemoy and Aquia Greensand) range from 0.6 in the north to 2.0 in the south. In the extreme southern tip of the County, specific capacity may range up to 5.0.

6. Wetlands

Wetlands are identified by notation on maps of the National Wetlands Inventory and by location of hydric soils in the Soil Survey, which either follow criteria for hydric soils or are presented in the National Hydric Soil List. Accordingly, wetlands are located in narrow strips along most streams and rivers in the County, around ponds, lakes, estuaries, and in extensive areas of the lowland flats along the Chesapeake Bay. Landfills generally cannot and should not be developed in or near wetlands.

7. Surface Water Sources, Flood Plains, Watersheds and Water Quality

In Calvert County there is only one surface water impoundment of significant size, which is located in the Chesapeake Ranch Estates. This impoundment extending for a length of 650 feet is used for recreational purposes only; the development relies on ground water for its potable water supply. The specifications for this reservoir are as follows:

Flood plains normally border the lower reaches of most streams and border virtually all marine and estuarine shorelines. The 100-year flood plain generally coincides with or is part of the Chesapeake Bay Critical Area in the County. Solid waste facilities should not be located at or near surface water sources and flood plains and caution should be applied within watersheds.

8. Land Uses and Planning

The Comprehensive Plan addresses current and planned land uses in the County. An environmental impact analysis is conducted.

Processing, transferring and handling facilities are allowed as accessory to a sanitary landfill.

Areas that preclude development of landfills and solid waste facilities include: Agricultural Preservation Districts, Historic Preservation Districts; the Critical Area; recorded open space, and power transmission lines.

9. Planned Long-term Growth Patterns

The Comprehensive Plan for Calvert County and the Calvert County Zoning Ordinance are written to ensure that solid waste facilities are located in suitable areas to avoid adverse impacts on adjacent land uses and to ensure compatibility with long term growth patterns. Code requirements further define specific site development requirements, such as set backs and buffers, and operational requirements, such as vehicle traffic controls, established to minimize impacts on neighboring development. Applicable code/zoning regulations are discussed further in Chapter II of this Plan.

10. Areas of Critical State Concern

Areas of critical concern relate to laws at the various levels that restrict or preclude certain types of development on designated acreage. Also, areas of critical State concern are areas designated by the Maryland Department of State Planning for restricted or no development.

D. ASSESSMENT OF SPECIAL CONCERNS

The State regulations that outline and detail development of this Comprehensive Solid Waste Management Plan call for an assessment and evaluation of five areas which have not been adequately addressed in the past, including: source separation and source reduction programs, resource recovery options, public education programs to reduce and recover resources when possible, programs and procedures to respond to emergency spillage or leaking of hazardous wastes, and disposal capacity for asbestos. Each of these areas is addressed in the sections that follow.

1. Source Separation and Reduction

The County promotes the reduction of the amount of waste requiring processing or disposal in the County through source reduction and recycling. Source reduction, or waste minimization, is considered to be a very important element of the County's waste management program, and a proactive rather than a reactive waste management strategy. Waste reduction activities typically have three thrusts: those aimed at

consumers; those directed at government, commercial and institutional establishments; and those practices geared toward industry. The techniques of waste reduction range from educating citizens about considering environmentally sound packaging when making purchase choices to governmental procurement program changes and changes in manufacturing processes to minimize waste and increase recyclability of products. The County plans to focus on these areas during the 10-year period of this Plan. Calvert County is committed to meeting or exceeding the recycling goals established for the County by the Maryland Recycling Act. The County's recycling program includes residential recycling at County Convenience Centers, diversion of vehicle tires from municipal wastes, commercial recovery of cardboard and mixed office paper from selected facilities, white goods and scrap metal recovery, paper diversion from County schools, and wood waste, brush and yard waste processing (at the Appeal Municipal Landfill and private sites in the County). The County has in place a recovery program for magazines and other glossy paper. Further, there are privately contracted curbside recyclables collection programs established in selected subdivisions, and these are expected to increase in the future. The County has explored the possibility of establishing County-administered contract collection districts for curbside collection of residential waste and recyclables. A preliminary review of this potential initiative indicates that the County could increase its recycling rate by 5 percent or more if such districts were implemented County-wide.

The County promotes source reduction through education efforts targeted at school-aged children and the general public in the County.

The County plans to continue its existing recycling activities, while evaluating ways to increase source reduction and source separation initiatives. While the existing strategy of contracting for recyclables collection and marketing with a private sector firm has been effective, the County will evaluate the cost-effectiveness of this approach versus collection and processing with County resources. Prior to expiration of the recycling contract term, the County will determine the feasibility of public recycling collection and processing as part of the process of evaluating private sector proposals/bids for the services.

Among the strategies the County intends to use to increase source reduction and recycling are:

- Posting of information on the County's Web site to inform residents of new recycling programs being initiated in the County;
- Technical assistance programs for County haulers and businesses to promote waste reduction techniques, recycling, the entrepreneurial opportunities available in the recycling field, and other recycling and source reduction considerations;
- Increased public education to promote source reduction and source separation behaviors among residential, commercial, and institutional generators in the County by hosting special presentations in schools and community groups, posting of source reduction material on the County Web site and mass mailing through the

County utility bills; and

- Working with other counties in the Southern Maryland region to evaluate handling strategies for reducing the amount of household hazardous waste disposed in the County

Based on the total amount of waste from residential, commercial and County sources disposed at the Calvert County Transfer Station and Landfill in 2006, the estimates of MRA waste (eligible waste) and the 2006 recycling quantities [see Table III-1(a)], it was reported that the County achieved a 50 percent recycling rate in 2006. This rate, which is higher than the diversion rate in previous years, is due largely to two factors: the reporting of 11,172 tons of commercial “bark products”, mistakenly reported as MSW Compost, which was processed within Calvert County but was all generated outside the County and the reporting of 35,494 tons of commercial wood materials processed by businesses in Calvert County, of which only approximately 19,291 tons was actually generated within the County. Based on variable activities by the Calvert County-based wood processing businesses, quantities of bark and wood materials fluctuate annually as do the in-County vs. out-of-County portions. If the amount of “bark products” and wood materials were reduced to the identified in-County material quantities only, then the recycling rate would be reduced to approximately 8.07 percent, which is below the 15 percent rate required for counties under 150,000 population by the Maryland Recycling Act. Because the County has implemented additional yard and wood waste recovery, mixed office paper recovery from schools, magazine and glossy paper recovery, and an E-cycling program, it is reasonable to expect that the County will continue to achieve and improve on its recycling goal. In addition, increased efforts on the part of County staff to document commercial recycling activities are expected to show greater recycling diversion in the commercial sector than had been reported in previous years.

2. Feasibility of Resource Recovery

Due to the rural nature and relatively lower volumes of solid waste generated in Calvert County as compared to the larger, highly populated metropolitan counties in the Baltimore-Washington area, it has not been considered feasible to implement resource recovery. Indeed, the option of implementing resource recovery via waste-to-energy (WTE) in the County has been studied in detail in a feasibility report issued in 1990, with findings and recommendations regarding this option.¹ Report recommendations indicated that the economics of a WTE project, in addition to various constraints to this development in the Tri-County Region (and thus, Calvert County), limit the viability of this option. While that report was developed over 16 years ago, these constraints still exist, and a waste-to-energy facility for the County or as a regional project is still deemed by the County not to be a viable option at the present time. Moreover, since that time, the County has entered into a long-term transfer and disposal contract with Waste Management, and is committed under that contract over the 10-year planning period.

¹Tri-County Waste-to-Energy Feasibility Study, Phase II. Gershman, Brickner & Bratton, Inc., July 17, 1990.

The County remains open to the concept of waste-to-energy, and will continue to monitor development needs and may reevaluate this option during the 10-year period of this Plan. The County could evaluate both a regional WTE facility and a smaller facility that would serve only the County's needs. However, due to the high capital costs of a WTE plant; the market, institutional and political constraints that were identified in the feasibility study; and the County's existing disposal contract with Waste Management, it is doubtful that this will be a feasible option during the 10-year planning period.

3. Public Education

Calvert County is committed to educating residents and businesses about proper waste handling, recycling, and disposal. In addition, whenever possible, messages to promote source reduction are included in solid waste and recycling programs, presentations, and publications.

The County's education and promotion program for waste reduction is geared toward motivating changes in the volume of waste disposed through increasing citizen awareness of the need for and opportunities to minimize waste generation. Education is directed toward reducing the reliance of both residential and commercial/institutional consumers on disposable products, raising public awareness of excessive packaging and packaging recyclability/reusability issues, and promoting "buy recycled" and general waste consciousness.

County staff has maintained a high profile since the implementation of the County recycling program. Signs and banners at each of the County convenience centers announce recycling opportunities. The County has worked with local media to encourage coverage of solid waste and recycling issues, and County staff is frequently called upon to make recycling presentations to schools, community groups, and civic organizations. In fact, because of the effectiveness of County outreach efforts, County staff has been asked to make presentations to schools in neighboring counties. Brochures and flyers explaining the materials accepted in the County's recycling program, delivery specifications, and other preparation requirements have been developed periodically and are updated as needed.

The existing levels of public education will be continued in future years, expanding as the need for additional promotion and education arises. Among the educational programs that the County promotes are:

- Backyard composting and "grasscycling;"
- Waste reduction and "smart shopping" to reduce packaging waste and reduce the toxicity of the waste stream;
- Waste reduction and recycling with the business community through seminars, workshops, direct mailing or other appropriate avenues;

- Regional strategies to improve the cost-effectiveness of outreach efforts and promote regional approaches to solid waste and recycling;
- The Countywide mercury recovery program; and
- The electronics recycling program.

4. Asbestos

Asbestos is not projected to be a major waste type needing large quantities of landfill capacity in Calvert County during the 10-year period of this Plan. This is largely due to the limited number of old buildings in the County containing asbestos. The number of new schools, government and commercial buildings, as well as new residential dwellings, built without asbestos materials have rendered this as a non-issue. The Appeal Municipal Landfill will accept asbestos in non-friable form as long as it is packaged according to State regulations and the County Division of Solid Waste, the Landfill operator, is properly notified of its arrival.

Generally, if asbestos is properly packaged in 3mm. plastic bags and landfilled, it is rendered inert and poses no health risk. Problems would occur if it arrived at the Landfill and would be inadvertently broken open to the air by an operator. Asbestos is harmful and poses a health risk when inhaled. Therefore, the County Division of Solid Waste must be aware when asbestos is delivered in order to take proper precautions.

5. Emergency Spillage and Leakage Plans/Policies

a. Hazardous Waste

The spillage or leaking of hazardous wastes within the County falls under the jurisdiction of the Calvert County Emergency Management Division, Maryland Department of the Environment, and appropriate Federal agencies which regulate certain industrial hazardous substances.

Aside from the high level radioactive wastes produced at the Calvert Cliffs Nuclear Power Plant, there is no significant generation of hazardous waste in the County. If a spill does occur, the Calvert County Emergency Operations Plan (EOP) would be implemented.

The Calvert County Emergency Operations Plan was endorsed and promulgated by the Calvert County Board of County Commissioners on July 16, 1991. This plan is reviewed annually and updated as necessary. The EOP addresses a wide range of natural and technological hazards within the County and contains procedures, organizations and responsibilities involved in the response and recovery phases of major emergencies and disasters, with flexibility sufficient to address any type of disaster which should occur. The EOP supersedes all previous emergency and disaster plans, excluding the Calvert Cliffs Nuclear Power Plant Response Plan, Annex Q, Appendix I, and the Calvert County

Standard Operating Procedures to Appendix I.

The EOP does not address procedures to be followed in specific occurrences, including chemical spills or leakage of a Controlled Hazardous Substance. Indeed, the likelihood is low for a hazardous waste spill in the County because: (1) hazardous wastes are not generated in regulated quantities; and (2) the County is not traversed by a significant interstate highway that would facilitate transportation of hazardous wastes from other jurisdictions.

However, should a spill or leakage occur, the EOP would be implemented. In general, Calvert Control (telephone 911) would be notified, the Emergency Operations Center would be activated, and one or more of six Fire companies located in the County, which are trained in hazmat awareness, would respond to initially mitigate the situation. Concurrently, the County Sheriff, Maryland State Police, Town of North Beach Police Department and/or Chesapeake Town Police Department would provide traffic control, personnel evacuation, and other services, if required. The first agency to arrive at the scene would begin to gather information from witnesses, transportation drivers, plant manager, and others.

The Emergency Response Division, MDE, would be notified of the incident. Since the County does not have a hazmat response team, a determination will be made whether an Emergency Response Team should be called in from another jurisdiction. The County can call in an Emergency Response Team from Prince George's County, Anne Arundel County, Montgomery County, local military installations, and Fairfax County, Virginia, among others. If an Emergency Response Team responds, control of the scene reverts to that Team.

Depending on the magnitude or nature of spill or leakage, personnel from the County Division of Solid Waste may pick up and store the material at the Appeal Municipal Landfill. Removal for ultimate disposal would be contracted to any one of the certified haulers of CHS found on the list put out by MDE. If the nature of material precludes handling by the Division of Solid Waste personnel, the removal and disposal would immediately be performed by a certified contractor such as Clean Venture, AMX Company, or Environmental Preservation Associates.

Details for responding to a hazardous materials incident are found in the County's EOP, Hazardous Materials Incident Plan, Annex L.

b. Radioactive Waste

Emergency operations for Calvert Cliffs Nuclear Power Plant (Plant) have been described in the Calvert Cliffs Nuclear Power Plant Response Plan (Plan). The Plan describes the protocol, procedures, participating organizations and responsibilities involved in reacting to major emergencies or disasters at the Plant.

In the event of an emergency in which radioactive wastes may be generated, the Plant

would have responsibility to dispose of same and the County's Division of Solid Waste may be involved. In this instance, the Barstow Landfill, which is outside the 10 mile "plume" of the Plant, would be activated as a holding and washdown area until a decision is made by the Federal Emergency Management Agency as to which actions to follow. At the Barstow Landfill, low level nuclear wastes would be prepared for disposal, as appropriate, emergency vehicles and other equipment would be washed down if needed, and wastewater would be stored in a storage pond prior to disposal.

The Appeal Municipal Landfill would not be employed in this capacity because it currently is used by the County for disposal of municipal waste and it is within the "plume" of the Plant.

6. Adequacy of Local Zoning Plan

As discussed in Chapter II of this Plan, the Calvert County Zoning Ordinance is revised regularly to address the ongoing needs of the County. While the County wishes to preserve the quality of life in Calvert County through a policy of slow growth, the needs of residents and businesses for infrastructure and services is regularly evaluated.

The County Zoning Ordinance adequately addresses the siting and operation of sanitary landfills and solid waste collection sites in the County. It is anticipated that future revisions to the County Zoning Ordinance will more completely address these types of facilities.

CHAPTER FIVE

PLAN OF ACTION

This chapter outlines a plan of action for solid waste management to meet the goals/objectives described in Chapter One, and to identify those decisions, actions and priorities necessary for implementation of the program. The County program must be efficient, economical, sanitary, and reliable; but equally important, it must enhance the environment, conserve valuable natural resources, and promote public health, safety and welfare.

A. SOLID WASTE AND RECYCLABLE MATERIALS MANAGEMENT

The Appeal Landfill and Appeal Transfer Station, with ultimate disposal of transferred waste at the King George Landfill in Virginia, will continue operating to serve the disposal needs of County residents and businesses. These facilities are expected to provide adequate disposal capacity throughout the period of this Plan and in excess of 15 years. The County has adequate landfill capacity and does not anticipate developing any additional sanitary landfills during the 10 years covered by this Plan. Waste Management, Inc. will continue to manage and operate the Appeal Transfer Station for the duration of the contract that will end in 2017, and could be renewed and extended beyond that time.

Specific Recommendations:

Continue to:

1. Operate and maintain the current Appeal Landfill and its associated facilities for HHW, brush and yard waste mulching and recyclables drop-off and transport in an efficient and environmentally sound manner; and
2. Maintain the transfer and disposal contract with Waste Management, monitoring the Appeal Transfer Station and associated transport system and services to ensure they are adequate and operated properly to meet the County's transfer and disposal needs.

B. SOLID WASTE AND RECYCLING COLLECTION SYSTEM

One of the goals of this Plan is to provide Calvert County citizens with convenient collection facilities not more than ten miles from their residences.

Currently, the seven staffed convenience centers, each equipped with residential waste and recycling drop-off containers (Lusby, Huntingtown, Plum Point, Ball Road, Mt. Hope, Barstow, Appeal), are in operation and serving the County's needs. However, as discussed in Chapter Four, the County has investigated the possibility of developing County-administered contract districts for residential waste and, potentially, recyclables

collection at curbside on a County-wide basis or for a substantial portion of the County. Such districts The County would consider (1) cost; (2) quality of service provided; (3) potential to increase waste diversion to reuse and recycling; (4) implementation issues and constraints; and (5) long-term benefits to the County and its residents. At present, the County does not intend to implement such collection districts in the near-term, but will re-evaluate this option during the 10-year planning period.

The County Recycling Plan is incorporated in this Plan. The Recycling Plan has been substantially implemented and will continue to be implemented, as appropriate, by the programs included in this Plan. The County will continue to evaluate and expand the County recycling programs, as appropriate, to meet or exceed the State-mandated recycling goals established by the Maryland Recycling Act and other recent State legislation.

Specific Recommendations:

1. Re-evaluate County-administered contract collection districts for residential waste and recyclables and, if they are determined to be feasible, implement them in selected areas of the County.
2. Continue to implement the Calvert County Recycling Plan (with modifications as needed to respond to changing market conditions, collection program requirements, and needs of County residents and businesses). Strive to exceed the State-mandated recycling goal of 15 percent through expanded materials diversion, expansion of curbside collection, development of contract collection districts, increased education and outreach to the commercial sector, and other new or modified initiatives.
3. Evaluate further reviews of the abilities of the convenience centers for continued usage or close for curbside collection for all or part of the existing solid waste system in the County.
4. Assist private haulers in the County, through technical assistance and public education initiatives, in developing successful recycling programs.
5. Consider the need to establish mandatory separation requirements for yard waste and other special waste stream items generated in the County.
6. Evaluate the need to establish commercial and industrial reporting requirements to ensure that the County can accurately project and report recycling quantities and future waste and recyclables management needs.

C. SANITARY DISPOSAL ALTERNATIVES

Due to the rural nature and relatively lower volumes of waste generated in Calvert County in comparison to other larger, highly populated counties, it has not been considered

feasible to implement resource recovery options. Moreover, the County has certain disposal commitments under a long-term waste transfer and disposal contract with Waste Management. However, advancements in technology and the possibility of combining operations with other jurisdictions and/or industry are options that the County will monitor and consider, as appropriate.

The potential for substantially reducing the overall landfill needs will be examined through a variety of methods, including expanding recycling, mulching, and source reduction programs.

Specific Recommendations:

1. Continue to evaluate resource recovery and other waste processing options during the 10-year planning period, to apply, if reasonable and feasible, improved technology and practices and to ensure that adequate systems are in place to meet the on-going needs of the County.
2. Continue to promote recycling, mulching, and source reduction initiatives in the County to further reduce the amount of waste requiring disposal.
3. Evaluate recycling program effectiveness at least annually to measure progress toward meeting the County recycling goal; and implement new programs or policies as needed to maximize the effectiveness of County recycling efforts.

D. SOLID WASTE SYSTEM FINANCING

Acquisition, construction, operation and maintenance of all County-owned and operated solid waste collection and disposal facilities, convenience centers, and collection and transport equipment and containers are funded through a solid waste enterprise fund. Major capital acquisitions are financed through the issuance of General Obligation bonds and/or special reserves established within the solid waste enterprise fund. Much of the County's capital needs for the development and construction of the Appeal Landfill was financed with General Obligation bonds. The County has employed a strategy of multiple sources of funding for its solid waste management system and has established improved lot assessments, tipping fees, solid waste development impact fees on new building construction, and other funding mechanisms. These sources of funding support the Appeal Landfill, development and operation of the solid waste convenience centers and recycling programs, administration of the solid waste system, provision of certain reserves for capital improvements and closure and post-closure care requirements at Appeal and Barstow Landfills, the contracted transfer and disposal services provided by Waste Management, public education needs, and various studies, evaluations, and Solid Waste Management Plan Updates. The County's solid waste enterprise fund is sound, and revenues are expected to be adequate to meet the County's needs during the period of this Plan.

The County will continue to apply a strategy of a combination of tipping fees, improved lot

assessments (to both residential and commercial properties), and solid waste development impact fees to raise the revenues needed to support its solid waste management system over the 10-year planning period. The County will continue to evaluate and apply, as needed, appropriate funding mechanisms and fee adjustments to support the solid waste management system as future changes and new programs and initiatives are implemented.

E. EXPANDED EDUCATION FOR WASTE REDUCTION AND WASTE MINIMIZATION

The educational program for Calvert County, to encourage waste reduction will have the following basic goals:

- To alter consumer buying habits and reduce excessive packaging practices;
- To encourage product reuse and the purchase of reusable and more durable goods;
- To promote recyclability as a purchase consideration;
- To encourage improved consumer maintenance of goods;
- To promote the resale of used and/or refurbished items;
- To encourage reduction in paper use; and
- To promote yard waste composting and/or mulching.

Educational efforts for waste reduction programs will be carefully planned and integrated with public information activities designed for recycling and other solid waste management projects.

F. SPECIAL WASTE PROBLEMS

1. Land-clearing Debris

Land-clearing debris has traditionally been managed by the private sector in Calvert County. Many existing contractors have applied for and received permits to burn land-clearing debris on-site in the past. Concerns over air quality in the region make this practice undesirable. Therefore, the County will continue to work with local excavators and contractors to identify disposal options and encourage the recycling of land-clearing debris. The Quality Built Homes facility receives trees, logs, stumps, brush, wood waste, and other land-clearing debris at their Lusby, Maryland facility for grinding and processing of the material to be sold to compost and bagging facilities in Maryland, West Virginia, and Pennsylvania.

Specific Recommendations

1. Provide technical assistance to local land-clearing debris generators to encourage recycling and re-use of land-clearing debris waste.
2. Monitor the need for additional land-clearing disposal capacity within the 10-year

planning period.

3. Promote the recyclability of land-clearing debris and work with local compost, grinding, and mulching contractors such as Quality Built Homes Incorporated, A. H. Hatcher, Inc., the Hance Land-Clearing Debris Landfill, and Calvert Environmental Recycling Company and other processing facilities to develop reuse and recycling applications and/or find markets for the recycling and/or beneficial use of these materials.

2. Construction and Demolition Debris

Construction and demolition debris is typically taken out-of-County to processing facilities in other counties and to the King George Landfill in Virginia; only a small amount of C&D debris is captured for internal use. Rubble C&D is not accepted from commercial generators at the Appeal Landfill. Certain C&D waste, primarily concrete and asphalt, is being increasingly processed and recycled. The Rubble Bee Recycling and Demolition, Inc. yard in Owings, Maryland, recycles clean concrete and asphalt brought to its facility. The concrete and asphalt are crushed into three sizes respectively: RC6; 2" and 3"-5" for concrete and fines; 2" and 3"-5" for asphalt. The material is then sold to contractors and road crews. Calvert Trash Systems, Inc. operates the Southern Maryland Processing Facility in Owings, Maryland for C&D wastes. The facility receives waste from Calvert County as well as several other southern Maryland counties and Washington, D.C. The actual 'processing' that the materials undergo is unclear and of the 49,776.43 tons managed in 2006, only 226.42 tons (0.4%) were shipped out for recycling, (including 62.41 tons remaining in Calvert County recycling facilities). The balance of the material accepted but not recycled is reported to be shipped out of county for disposal in Virginia, making it function more as a transfer facility than a processing facility. Recovermat Mid-Atlantic, Inc., another processor of construction and demolition debris, receives some mixed construction and demolition (C&D) waste from Calvert County at its Baltimore County facility. The mixed C&D debris is ground to a fine aggregate, the metals are then removed, and the aggregate material is marketed as alternative daily cover for landfills.

Specific Recommendations

1. Monitor the need for additional in-County disposal capacity for this waste stream. If the need for capacity is identified, encourage private sector development of such a disposal facility.
2. Promote the recyclability of construction and demolition debris and work with local contractors such as Rubble Bee and Republic/Calvert Trash Systems to develop reuse and recycling applications and/or find markets for the recycling and/or beneficial use of these materials.

3. Controlled Hazardous Substances

There are no "significant" generators of hazardous waste reported in Calvert County,

although the Calvert Cliffs Nuclear Power Plant and the Naval Research Laboratory do generate hazardous waste, which is reported to be transported to permitted facilities by properly licensed transporters. The proper handling and disposal of hazardous waste is the responsibility of the generator. The County will continue to serve as a technical resource for individuals or firms with questions or concerns about hazardous waste handling and disposal, and will monitor the possible CHS management needs of existing businesses and industries and new businesses and industries that may locate in the County.

Specific Recommendations

1. Monitor the potential CHS needs of new and existing businesses and industries in the County
2. Continue operation of the County's Household Hazardous Waste facility at Appeal Solid Waste Management Complex, promote its use by County residents, and explore the potential for the use of this facility as a regional service outlet in Southern Maryland.
3. Evaluate the potential to establish or participate in a hazardous waste exchange and/or a paint exchange where certain of the HHW materials can be reused or recycled.
4. Provide technical assistance to residents and the commercial sector as needed.
5. Assist in implementing the County's emergency spillage and leakage plan if a hazardous waste spill were to occur in the County.

4. Dead Animals

Dead animals do not pose a disposal problem in Calvert County. Existing collection and disposal methods appear to be adequate. The County will continue to monitor the management of dead animals to ensure that adequate disposal capacity continues to exist throughout the 10-year planning period.

5. Littering and Illegal Dumping

The County Health Officer addresses illegal disposal in the County. With the assistance of the State Attorney General's Office (as a prosecuting entity), the County will continue to convey the message that illegal dumping will not be accepted in Calvert County. Litter clean-up is also conducted by the County to reduce the unsightly effects of roadside debris. The County will continue to educate the public about littering and illegal dumping during the 10-year planning period covered by this Plan. In addition, the County will support groups and programs that emphasize the importance of this approach.

6. Bulky Wastes

The County provides an on-call waste collection service for bulky waste items generated by residents in the County. Also, certain private waste collectors provide bulky waste collection service. In addition, an electronics waste "Ecycling" program has been established; this program will help to manage the electronics portion of the County's waste stream, and the County will seek to expand and promote this program. Appliances and scrap metal that would otherwise have been disposed at the Appeal Landfill or Appeal Transfer Station are recovered for recycling, and the County is operating a brush and wood waste mulching operation at Appeal Landfill to handle additional bulky organics from the waste stream.

Specific Recommendations

1. Continue to promote the recyclability of bulky waste stream items generated in the County.
2. Investigate the potential to establish an exchange program for construction waste from home repair/renovation projects.
3. Expand and promote the County's "Ecycling" program to maximize the recovery and reuse/recycling of the growing electronics waste stream.

7. Waste Water Treatment Plant Sludge and Septage

The substantial quantity of sludge generated by wastewater treatment plants in the County is disposed of at the King George Landfill in Virginia, which has capacity for this waste stream throughout the period of this Plan. Septage in the County is disposed of primarily at the septage receiving facility at the Solomons Island WWTP, and there is adequate capacity at this WWTP for the septage anticipated during the period of this Plan. The County will continue disposal of sludge at King George Landfill and maintain its receiving facility for septage throughout the period of this Plan.

Specific Recommendations:

Monitor septage haulers and septage quantities to ensure proper disposal is occurring and that adequate capacity for septage is maintained at the County's WWTP(s).

8. Other Wastes

Other wastes addressed in this Plan include: (1) asbestos; (2) medical/infectious waste; (3) agricultural waste, (4) recreational facility waste; (5) used motor oil; and (6) petroleum-contaminated soil. It is anticipated the handling of agricultural waste will be adequate within the 10-year period of this Plan. Recreational facility waste does not pose a problem and is adequately handled in the County's existing solid waste collection, recycling and

disposal system. Petroleum contaminated soil has not been a problem in the County and the Appeal Landfill can accommodate this material if necessary. Each of these waste streams has been more fully discussed in Chapter Three. Specific recommendations related to these special waste streams are listed below.

Specific Recommendations

1. Continue to require that asbestos delivered to the Appeal Landfill be properly identified and handled.
2. Increase awareness in the medical community and community at large of the handling required for medical waste, and monitor the generation and handling of this waste stream by generators in the County.
3. Continue to collect and recycle used motor oil and other automotive products to minimize the impact of the improper disposal of these items.
4. Continue to monitor the need for management and disposal of petroleum contaminated soil to minimize the environmental impact of improper disposal. Provide for disposal of such material at Appeal Landfill or other approved facility, in accordance with all applicable laws and regulations.

Appendix 1

COUNTY ZONING

The Zoning Ordinance specifies where land uses are allowed. Table A1-1 lists the pertinent land uses, in what zoning districts they are permitted, and under what conditions these uses are allowed outside town centers.

**Table A1-1
Solid Waste Land Uses by Zoning District**

Use	FFD	RCD	RD	APD	HD	I-1	Conditions
Commercial Recycling Facility						C	<ol style="list-style-type: none"> 1. The Commercial Recycling Facility shall be constructed and operated in accordance with the Solid Waste Chapter of the County Code, as amended from time to time; and 2. no incinerator shall be permitted; and 3. no outdoor processing shall be permitted.
Landfill, Land-clearing Debris	SC	SC	SC	C	C	C	<ol style="list-style-type: none"> 1. All materials shall be physically inert or biodegradable and occurring naturally such as stumps, brush, and logs; and 2. if in an individual recorded section in a major subdivision, all dumping must cease after 75% of the lots in that section have been developed; and 3. all County, State, and Federal permits shall be obtained; and 4. on land that is designated as an Agricultural Preservation District, only debris originating onsite shall be permitted.

Use	FFD	RCD	RD	APD	HD	I-1	Conditions
Landfill, Rubble						SC	<ol style="list-style-type: none"> 1. The area shall be located at least 500 feet from any adjacent property line of a property owned by a party other than the applicant (unless such adjacent property owner gives written consent) and 200 feet from any street, highway, or road right-of-way. 2. All County, State, and Federal permits shall be obtained; and 3. The use shall be 100 percent screened from adjoining properties and roads.
Landfill, Sanitary						C	The area shall be located at least 500 feet from any adjacent property line of a property owned by a party other than the applicant (unless such adjacent property owner gives written consent) and 200 feet from any road right-of-way.
Solid Waste Collection Site	C	C	C			C	It shall be constructed and maintained in accordance with the Comprehensive Solid Waste Management Plan.

Notes:

Zoning Districts Key:

FFD = Farm and Forest District
 RCD = Rural Community District
 RD = Residential District
 APD = Agricultural Preservation District
 HD = Historic District
 I-1 = Light Industrial District

Conditions Key:

C = Use is permitted only if it meets the conditions specified in the Table of Land Uses.
 SC = Use is subject to a special exemption from the Board of Appeals and must meet the conditions specified in the Table of Land Uses.

Solid Waste Collections sites are allowed in the Core Sub-district of the Owings Town Center, the Residential Sub-district of the Huntingtown Town Center, the Entry, Village, New Town, and Forest Sub-districts of the Prince Frederick Town Center, and as an S1 use in the Residential Sub-district of the St. Leonard Town Center.